

Apparatus and containers for performing polymerase chain reaction

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EC
Classification: G05D23/19D, B01L3/00C2D2, B01L3/00C2D4, B01L7/00, B01L7/00D, G05D23/19E

Equivalents: ☐ EP0812621, B1

Abstract

A thermocycler apparatus for performing polymerase chain reaction (PCR) comprises a heating block (12) and heated cover (14) in which sample tubes (324,326) are retained, heated and cooled as required. The heating of the upper portions and caps of sample tubes (324,326) in use prevents condensation inside the tube caps thereby eliminating the need for a layer of oil floating on the surface of the sample liquid. 

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(19)



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(12)

EUROPEAN PATENT APPLICATION

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Remarks:

This application was filed on 22 - 07 - 1997 as a
divisional application to the application mentioned
under INID code 62.

(54) Apparatus and containers for performing polymerase chain reaction

(57) A thermocycler apparatus for performing
polymerase chain reaction (PCR) comprises a heating
block (12) and heated cover (14) in which sample tubes
(324,326) are retained, heated and cooled as required.
The heating of the upper portions and caps of sample

tubes (324,326) in use prevents condensation inside the
tube caps thereby eliminating the need for a layer of oil
floating on the surface of the sample liquid.

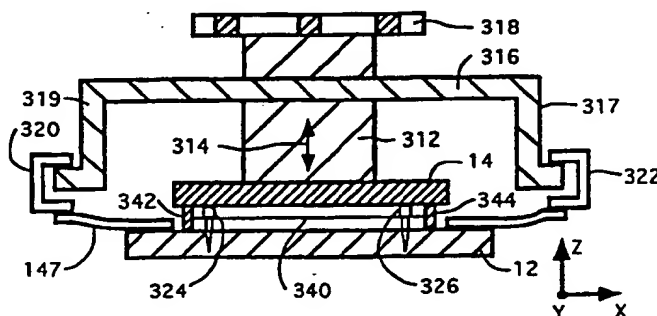


FIG. 19

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EUROPEAN SEARCH REPORT

Application Number
EP 97 11 2541

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	EP 0 388 159 A (SEIKO INSTR INC) 19 September 1990 * column 1, line 6 - line 36; figures 2,4 *	1,5	B01L7/00 B01L3/00 B01L9/06 C12Q1/68 G05D23/19
Y	DE 26 03 683 A (LOO HANS MICHAEL VAN DE DR RER) 11 August 1977 * page 2, line 1 - line 17 * * page 2, line 26 - page 3, line 33; figures *	1,5	
A	EP 0 311 440 A (SEIKO INSTR INC) 12 April 1989 * the whole document *	1,5	
A	US 3 483 997 A (RITTER HARRY W) 16 December 1969 * the whole document *	1,5,9	
X	DE 88 08 738 U (DIEKMANN) 1 September 1988 * page 3, line 4 - line 26 * * page 5, line 8 - line 20; figure *	6-11	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B01L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 September 1997	Examiner Hocquet, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document</p> <p>T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &: member of the same patent family, corresponding document</p>			

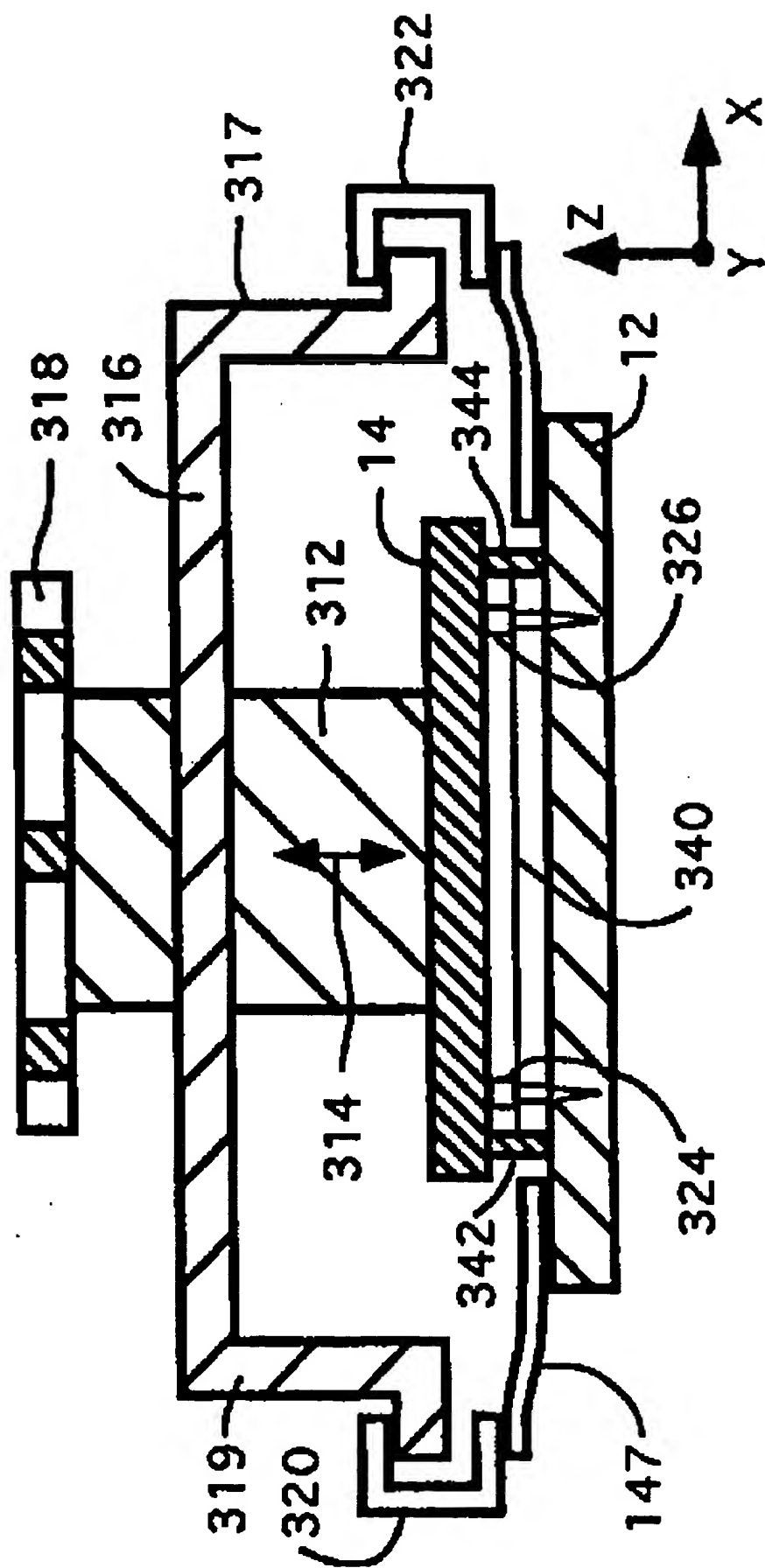


FIG. 19

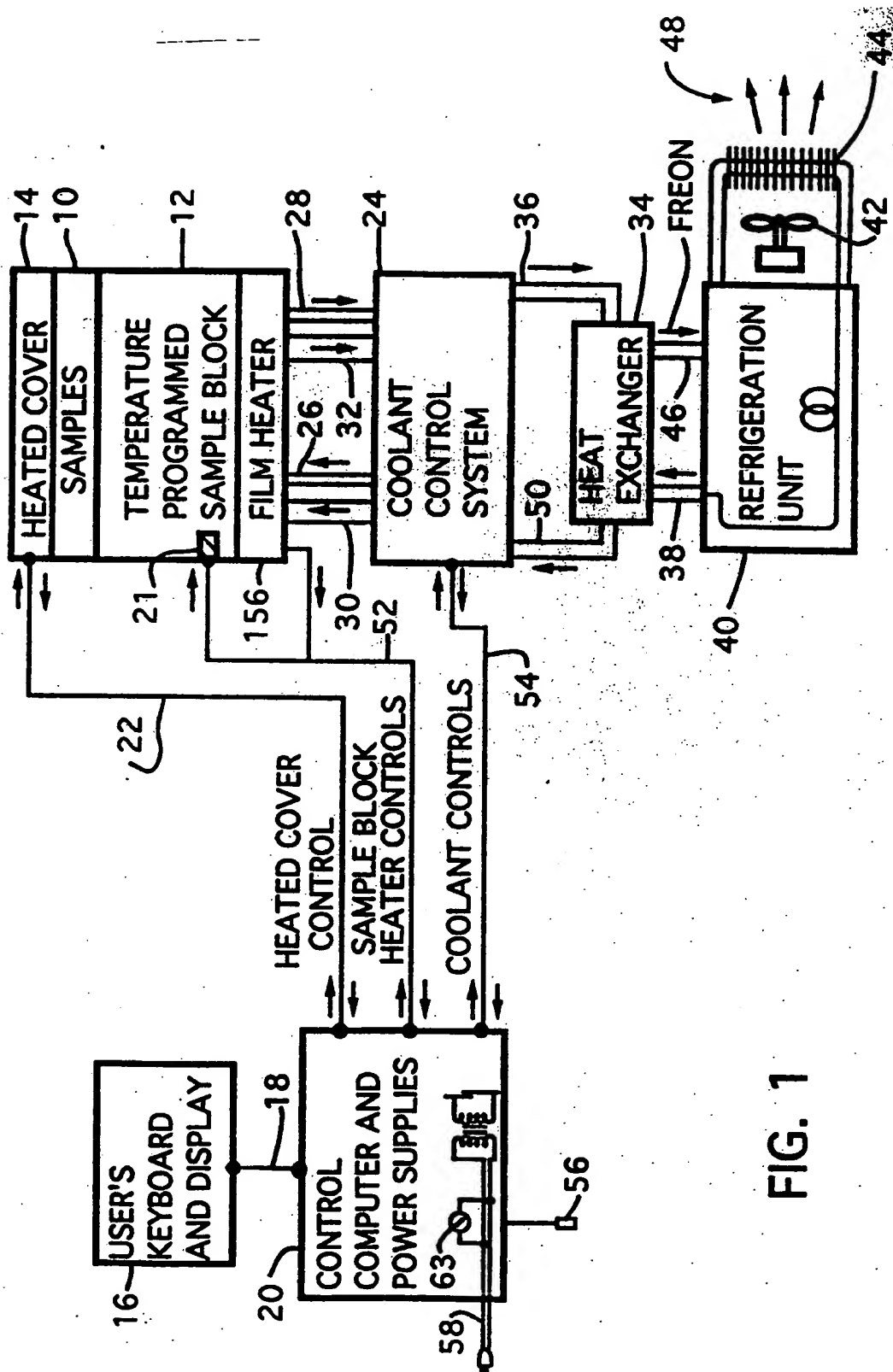
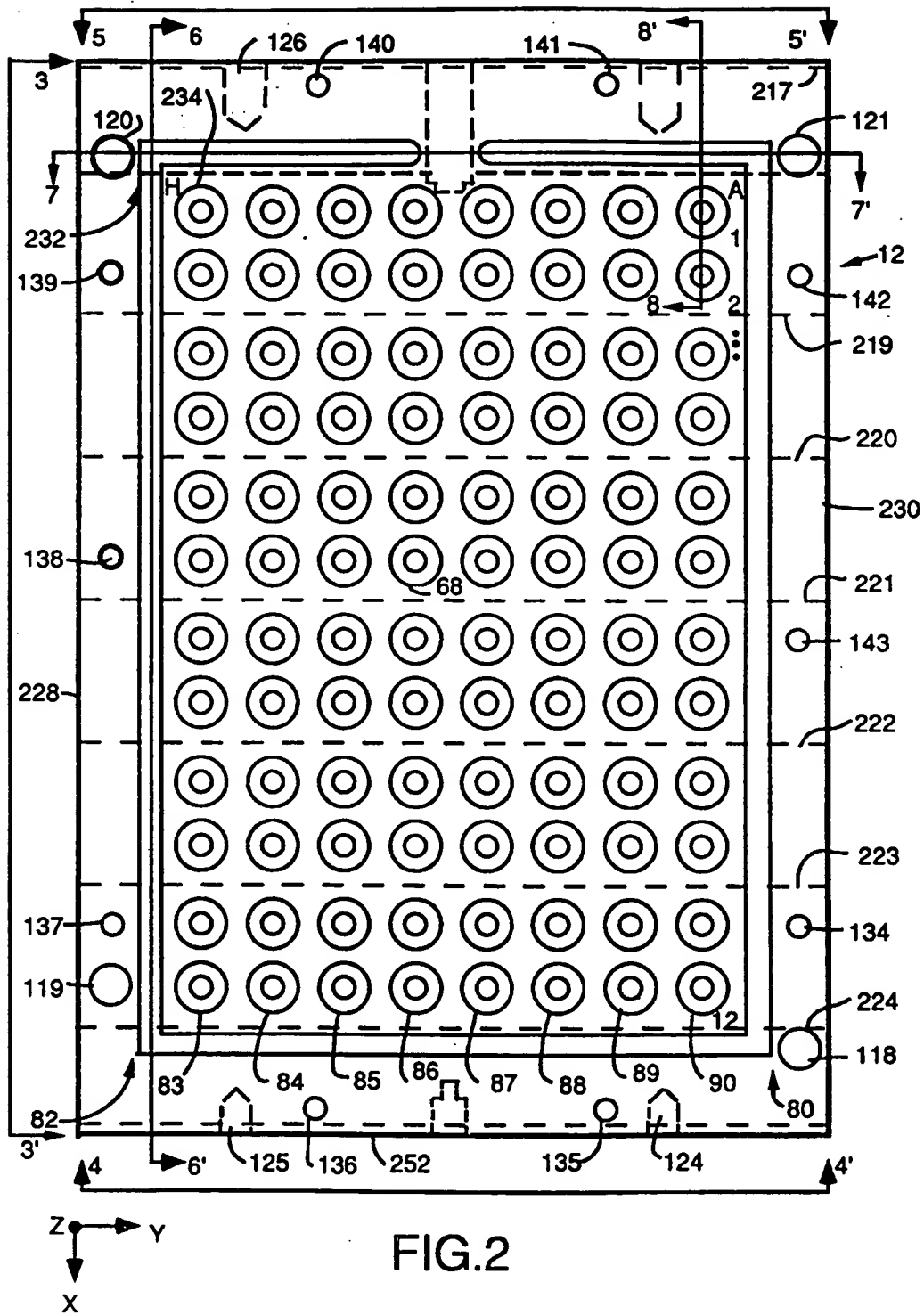
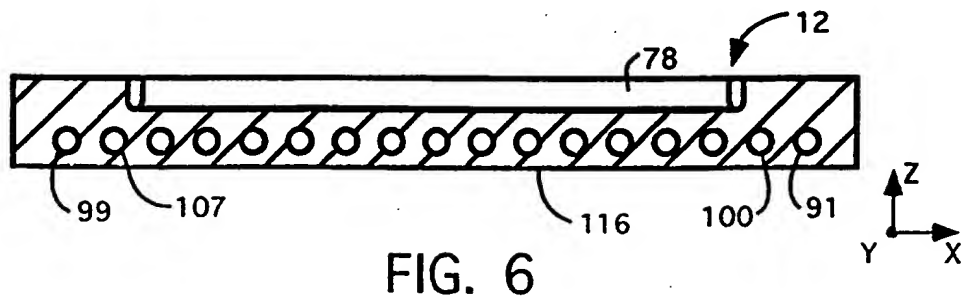
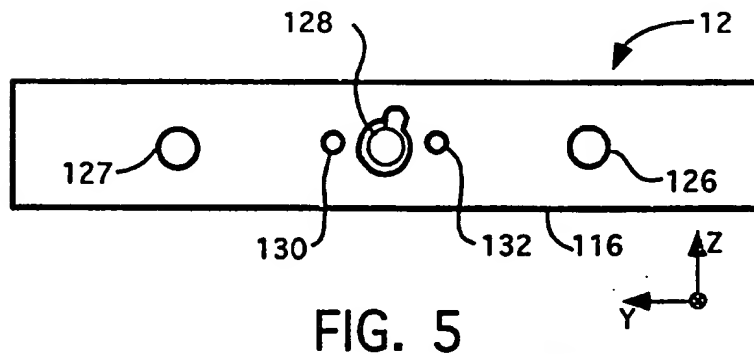
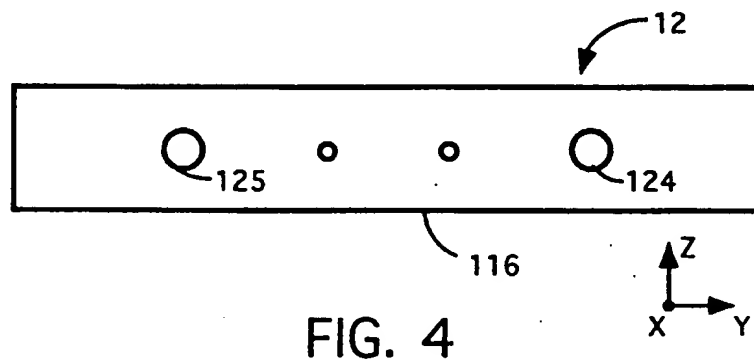
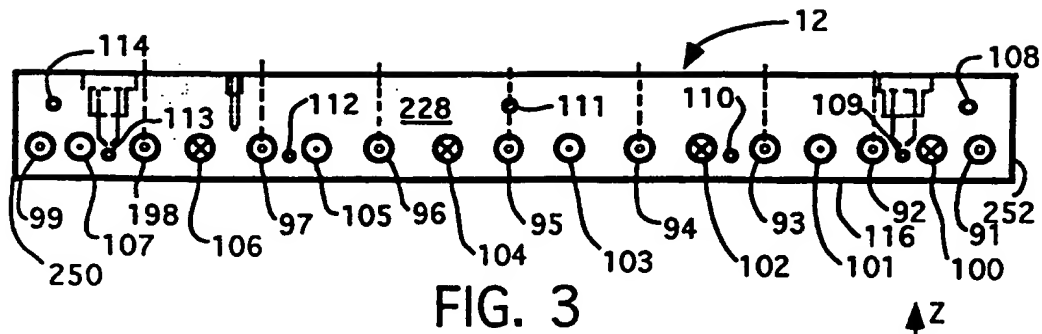


FIG. 1





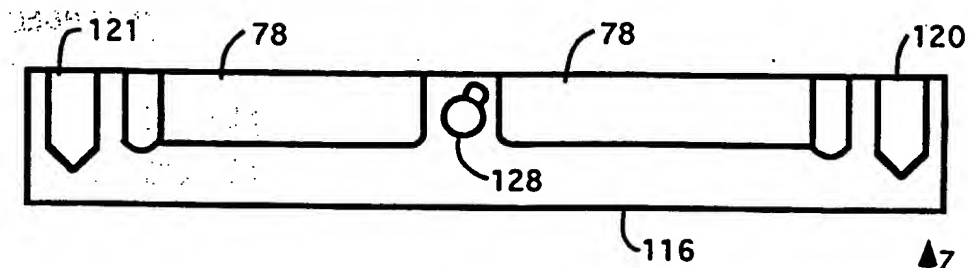


FIG. 7

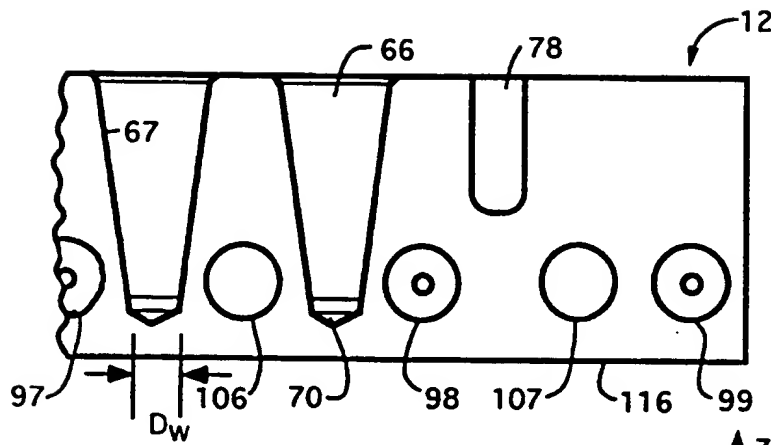


FIG. 8

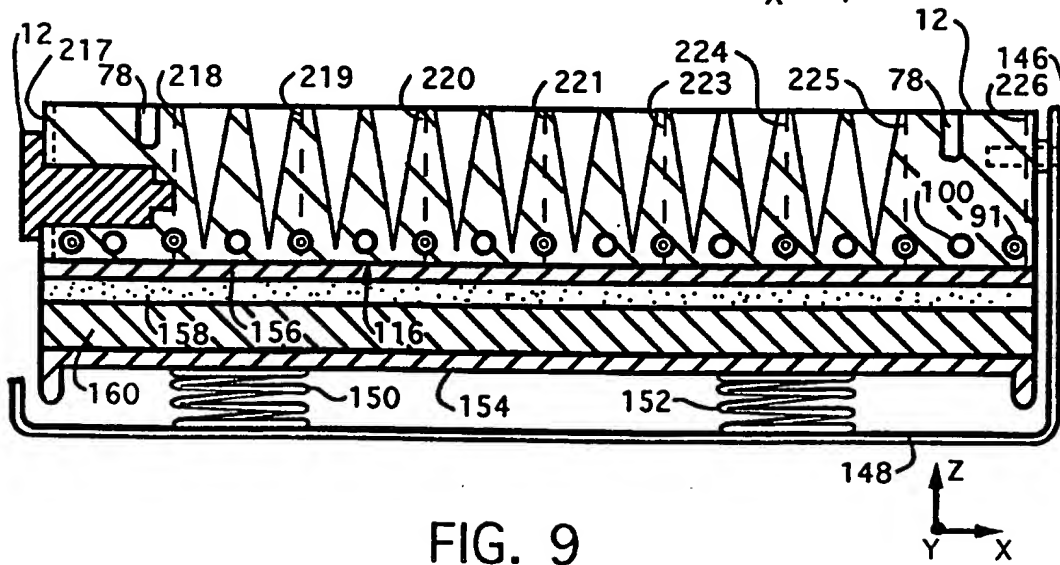


FIG. 9

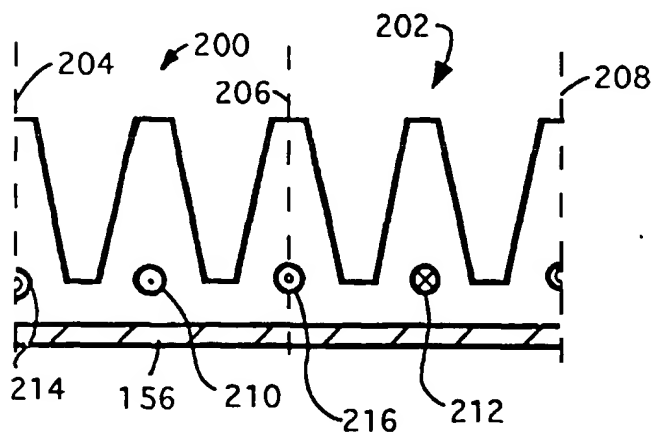
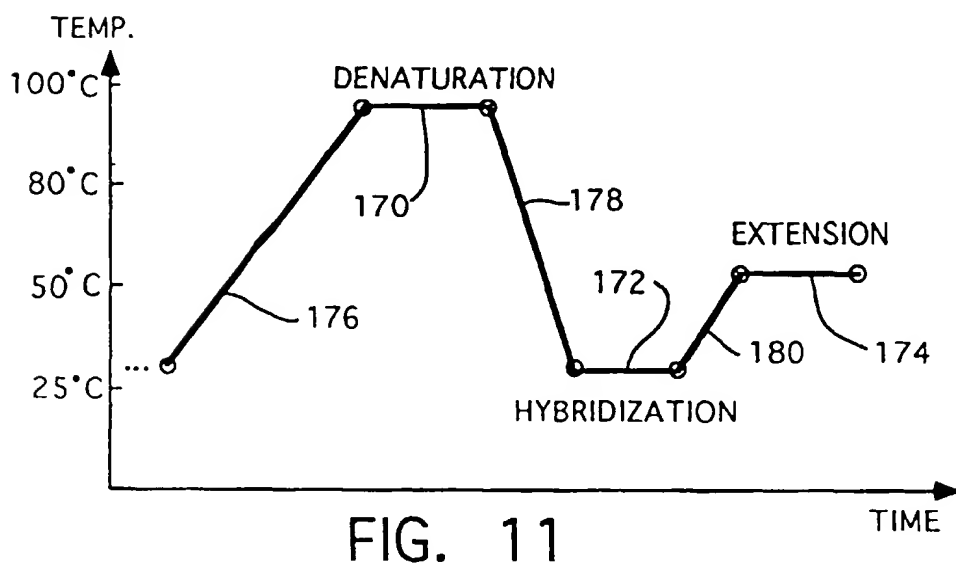
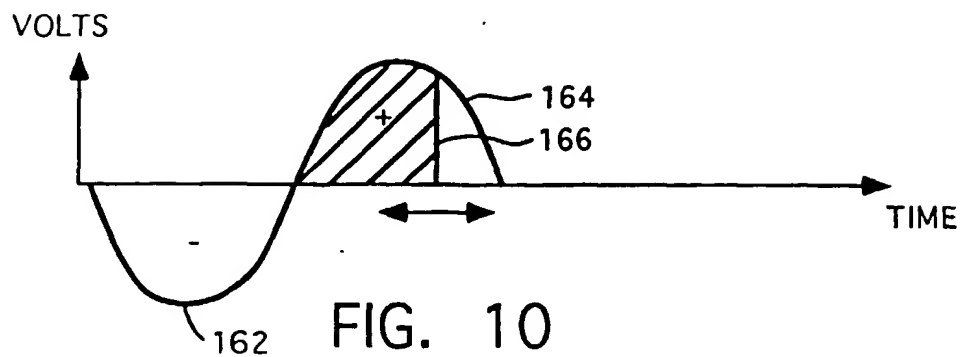


FIG. 12

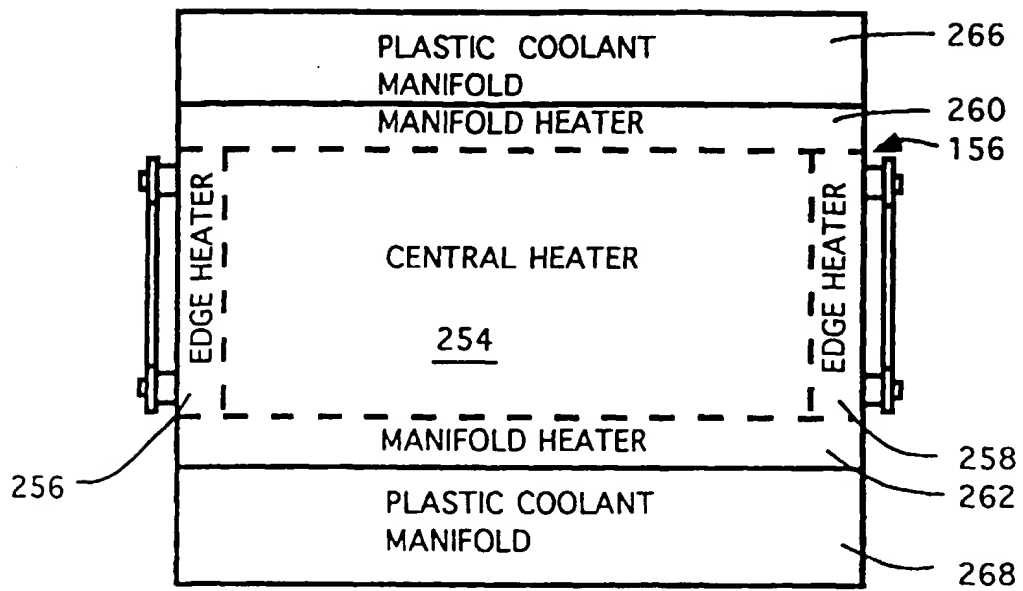


FIG. 13

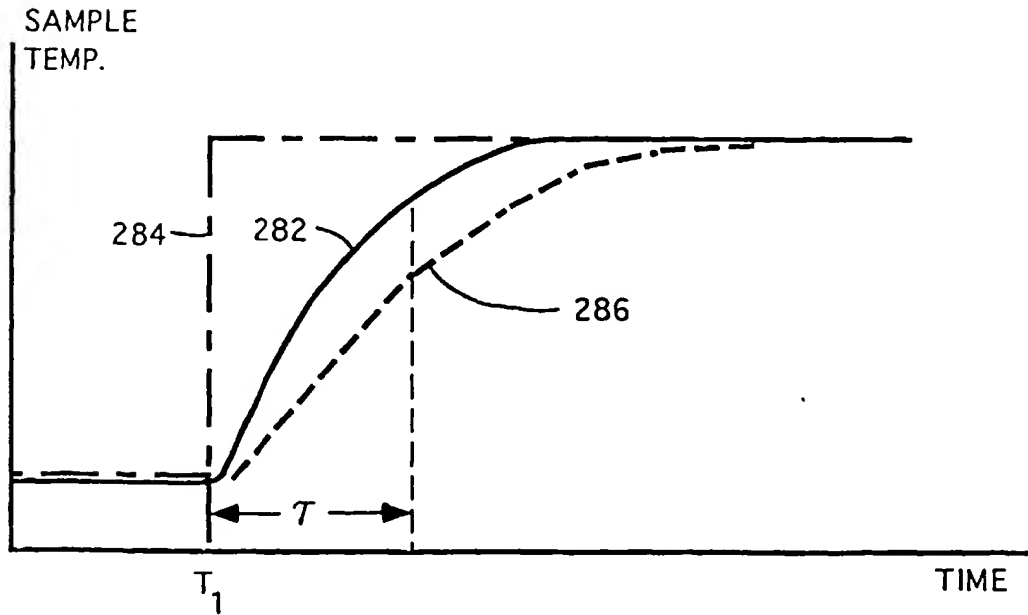


FIG. 14

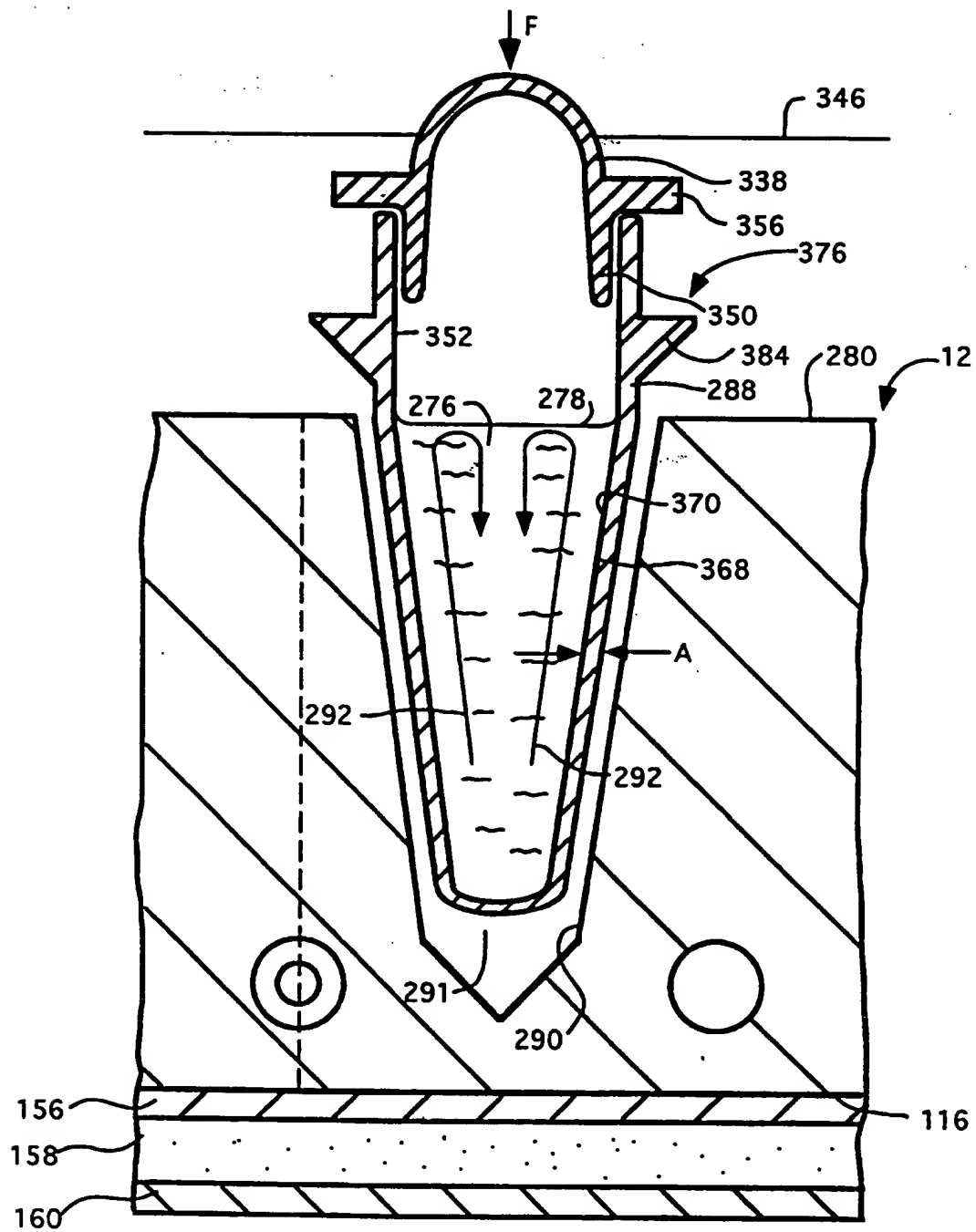


FIG. 15

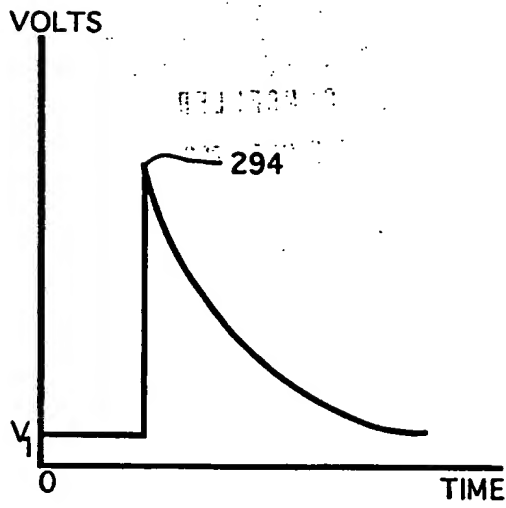


FIG. 16A

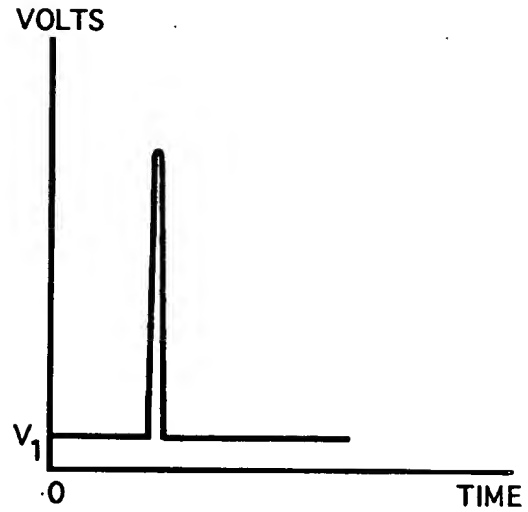


FIG. 16B

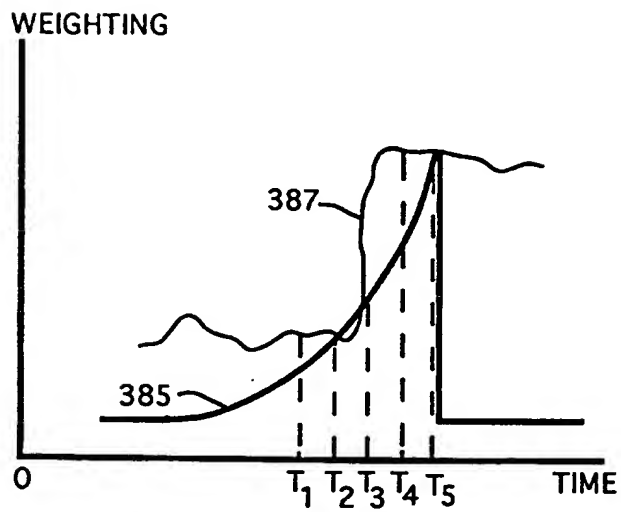


FIG. 16C

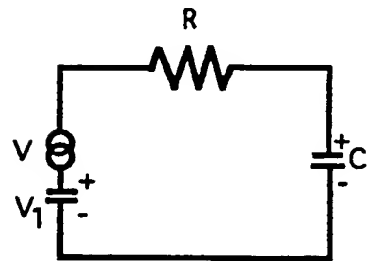


FIG. 16D

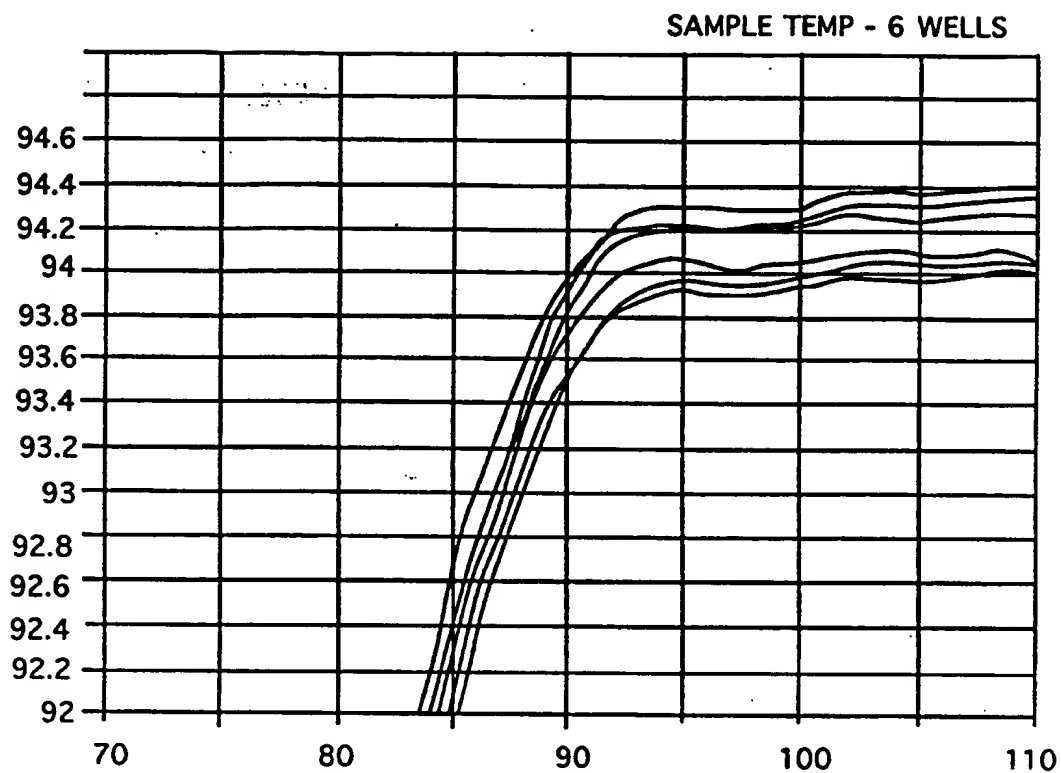


FIG. 17

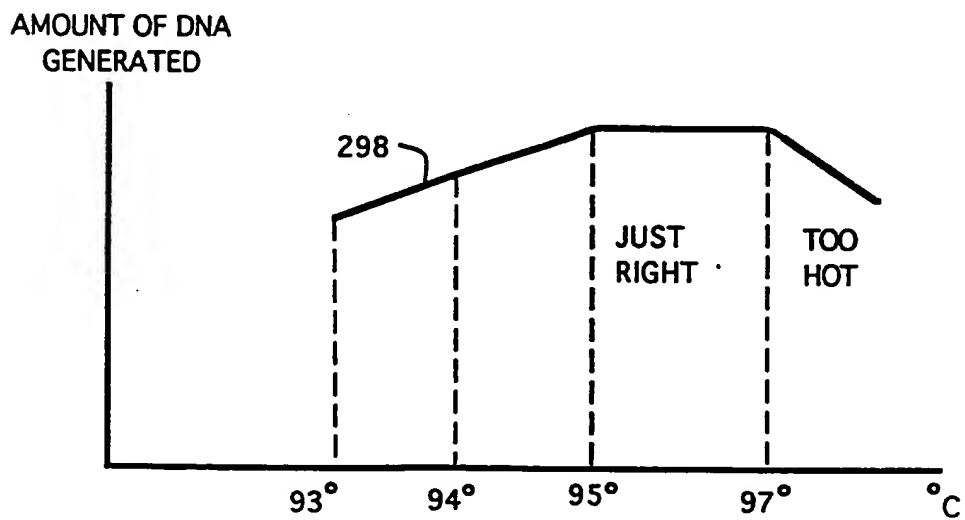


FIG. 18

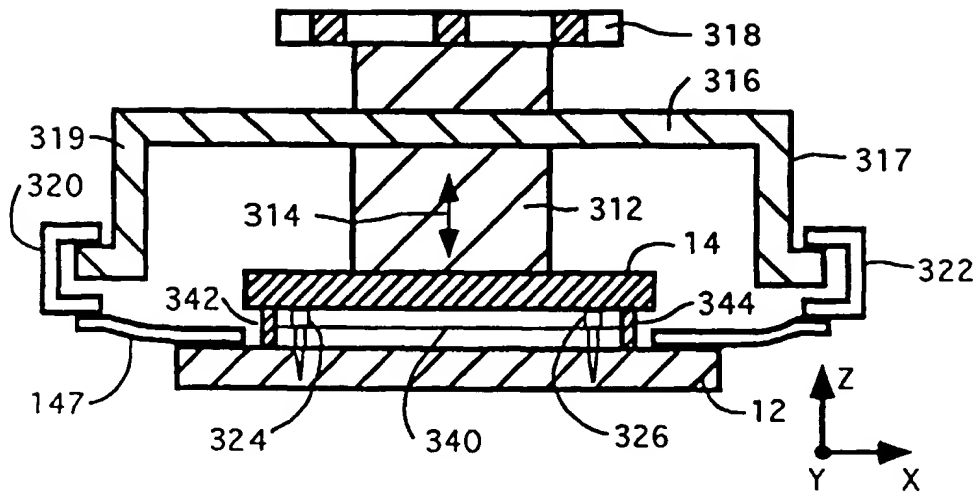


FIG. 19

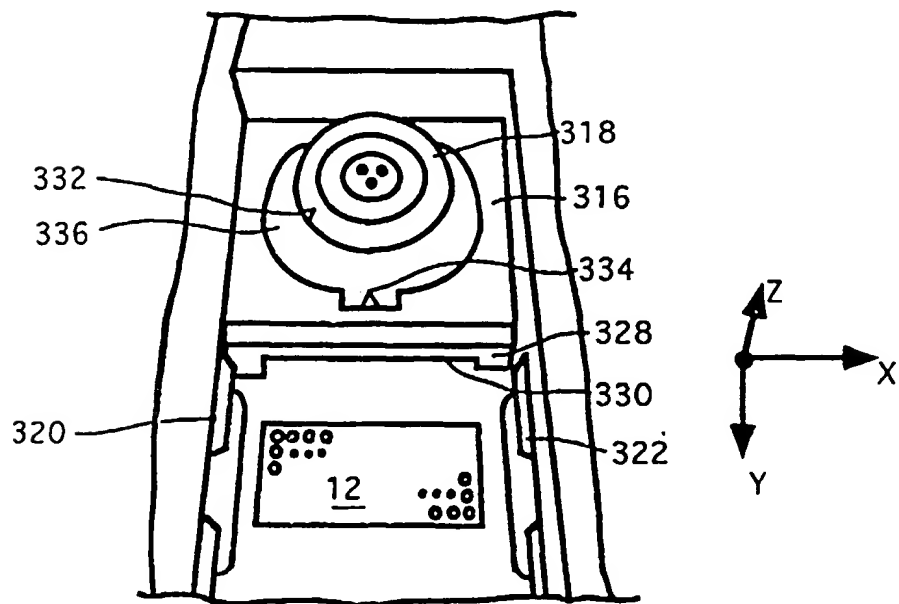
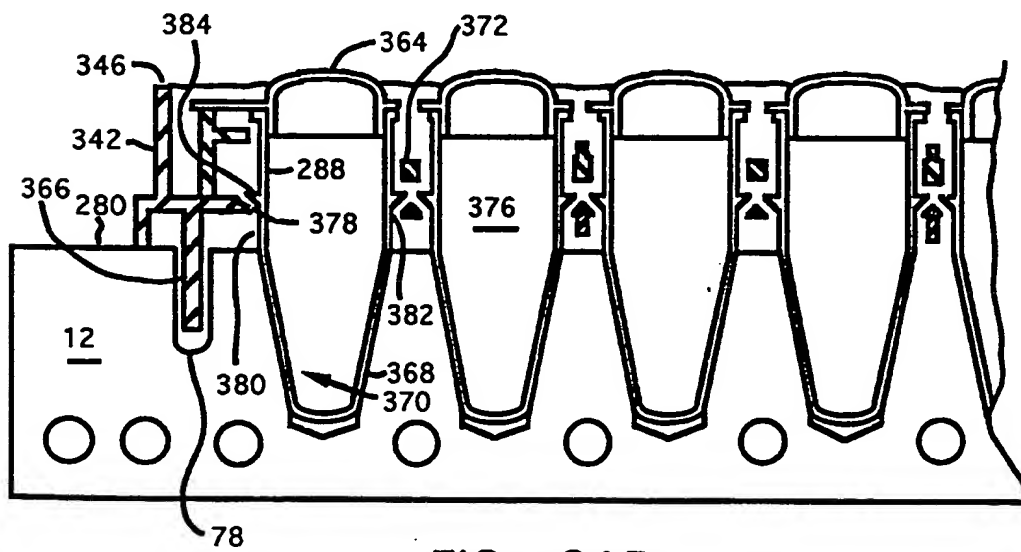
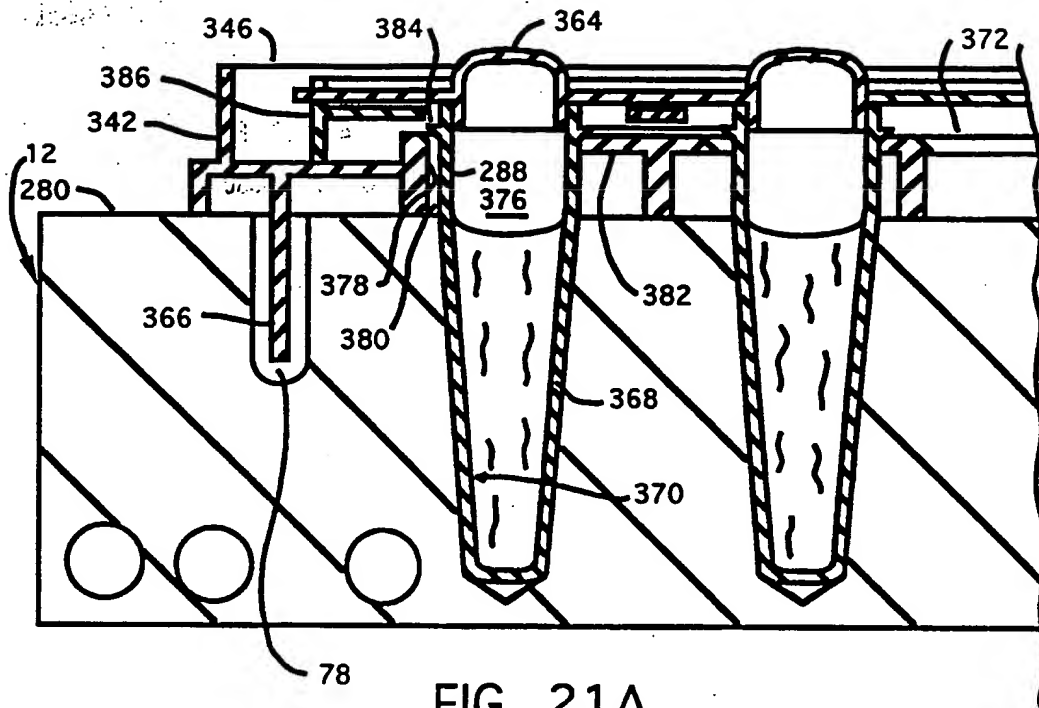
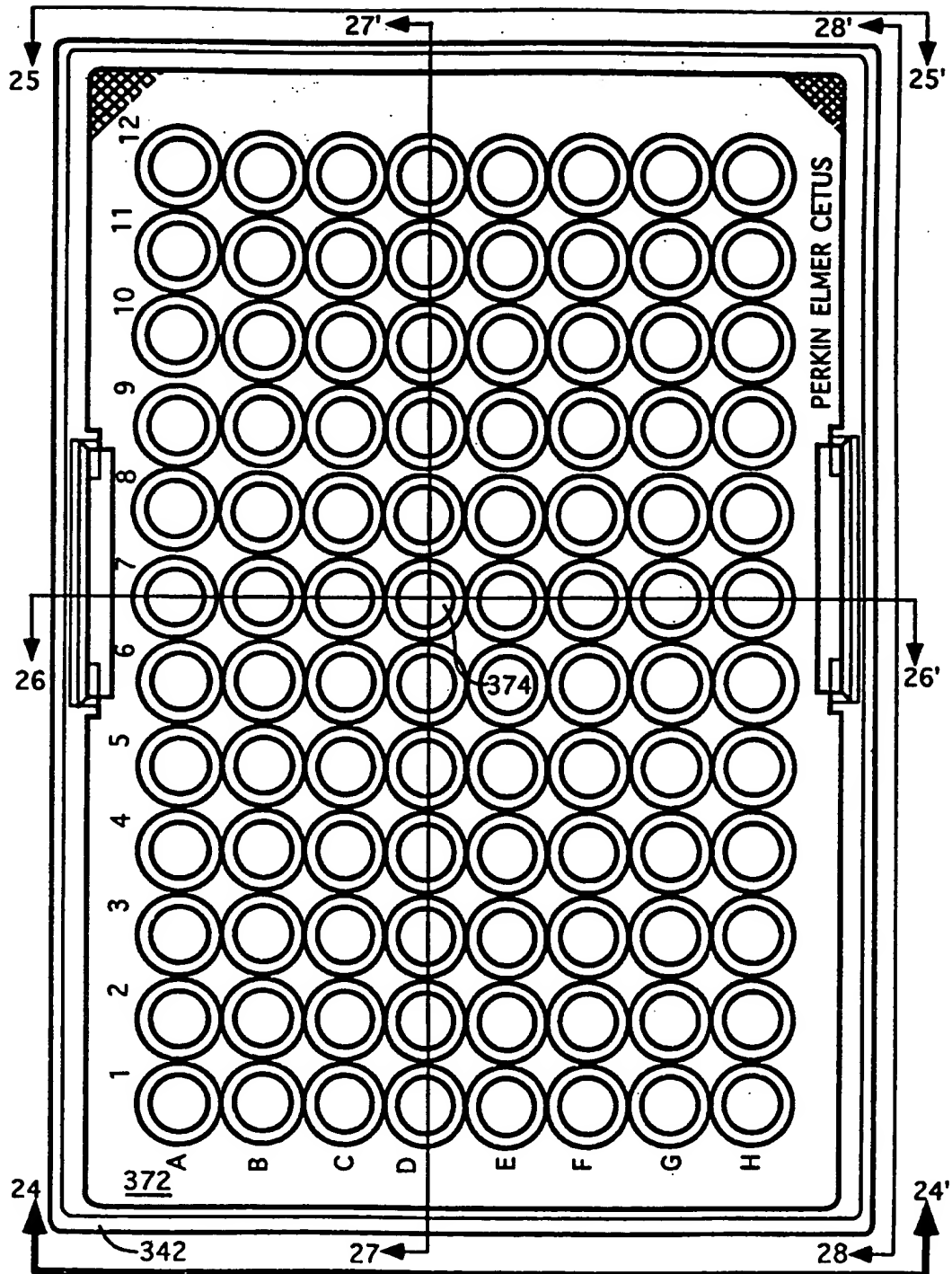


FIG. 20





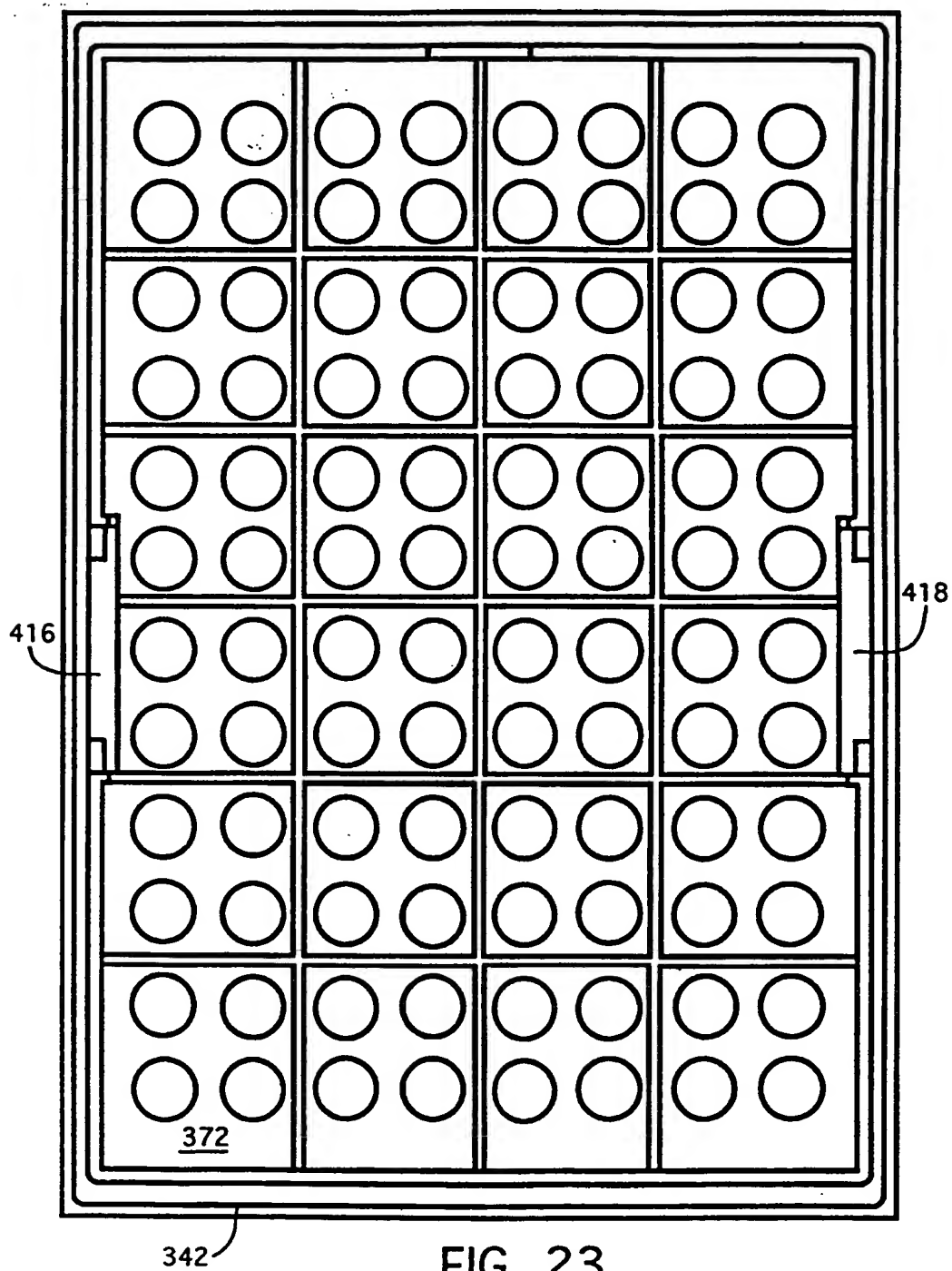


FIG. 23

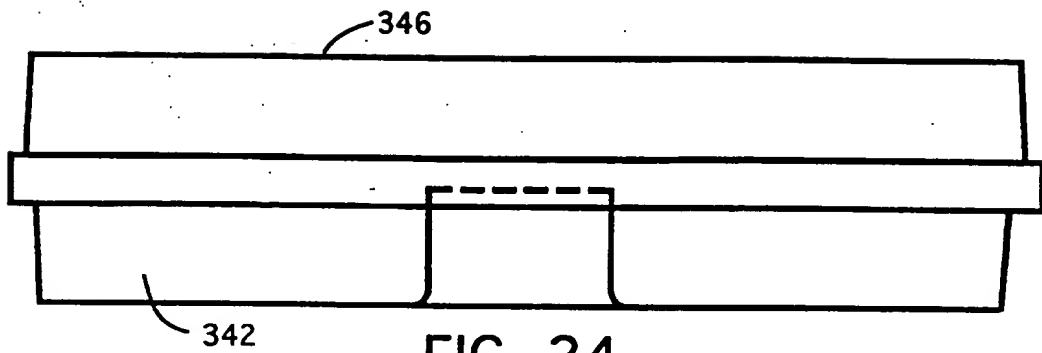


FIG. 24

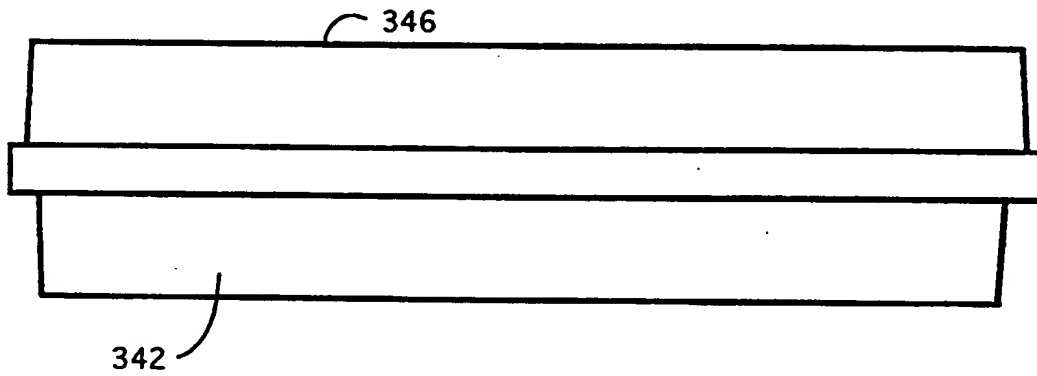


FIG. 25

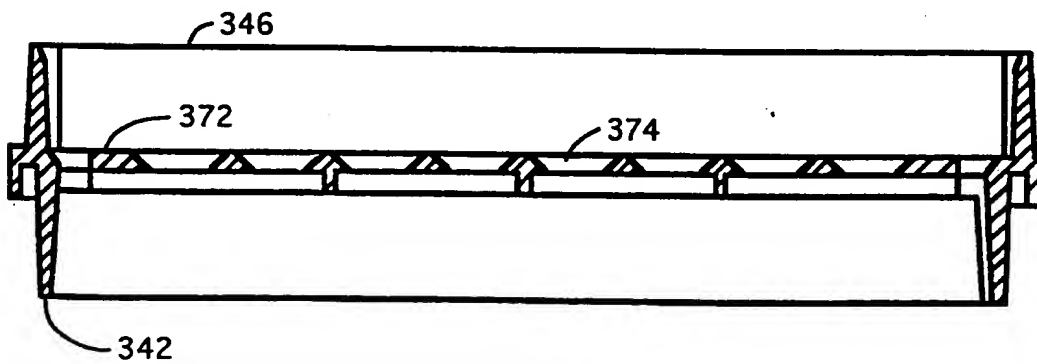
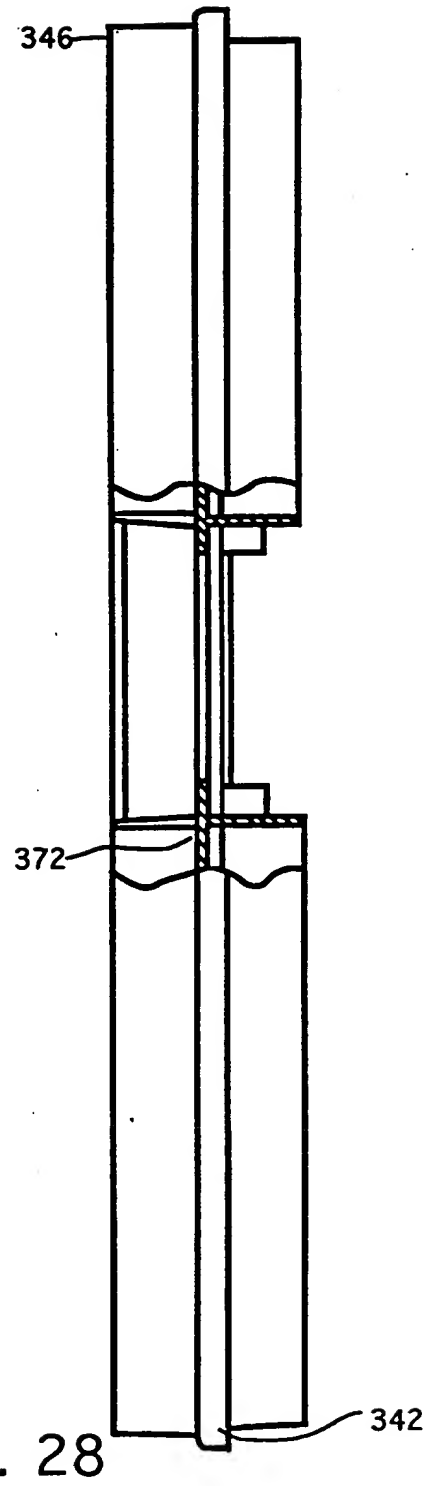
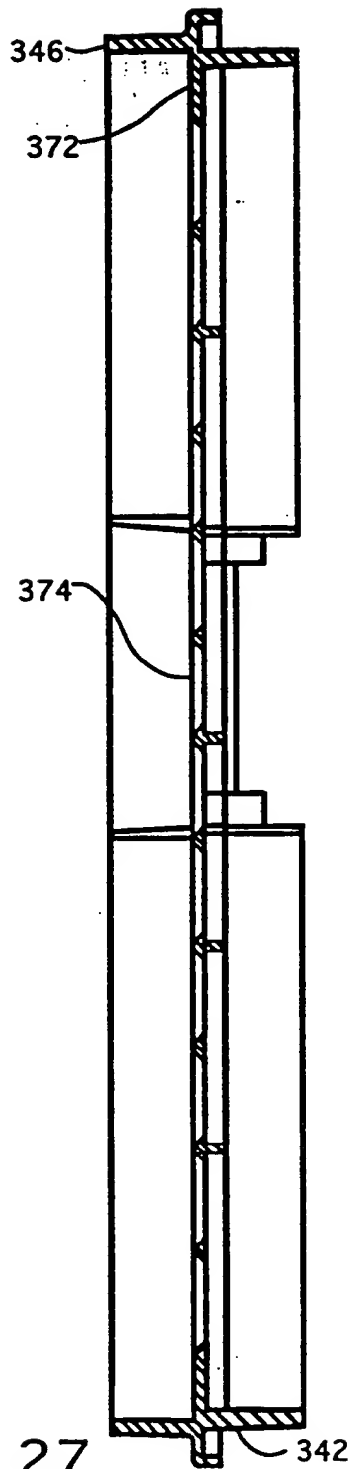


FIG. 26



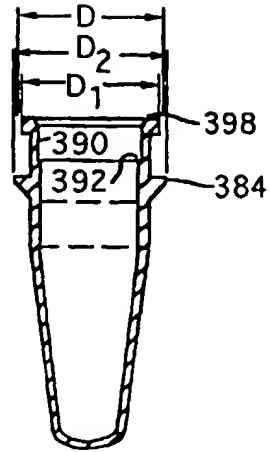


FIG 29

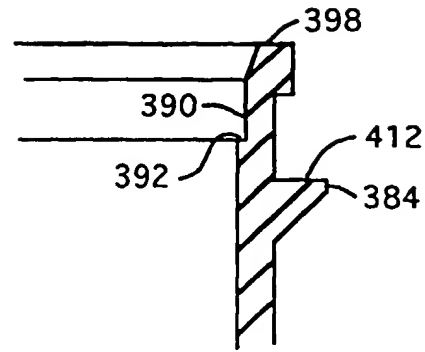


FIG 30

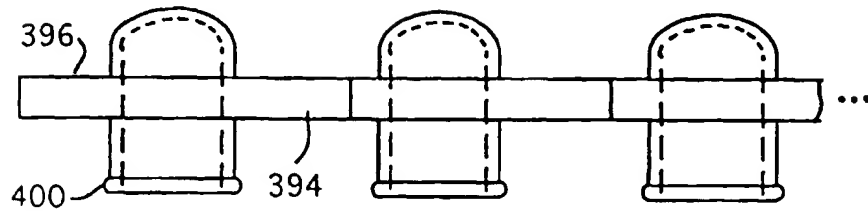


FIG 31

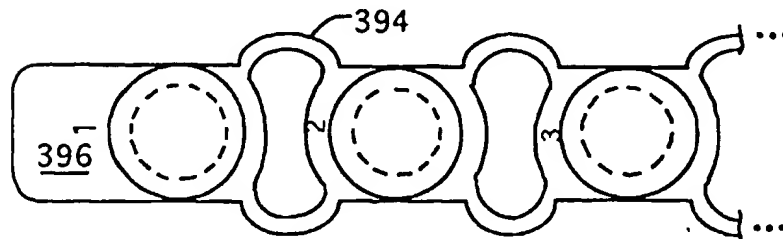


FIG 32

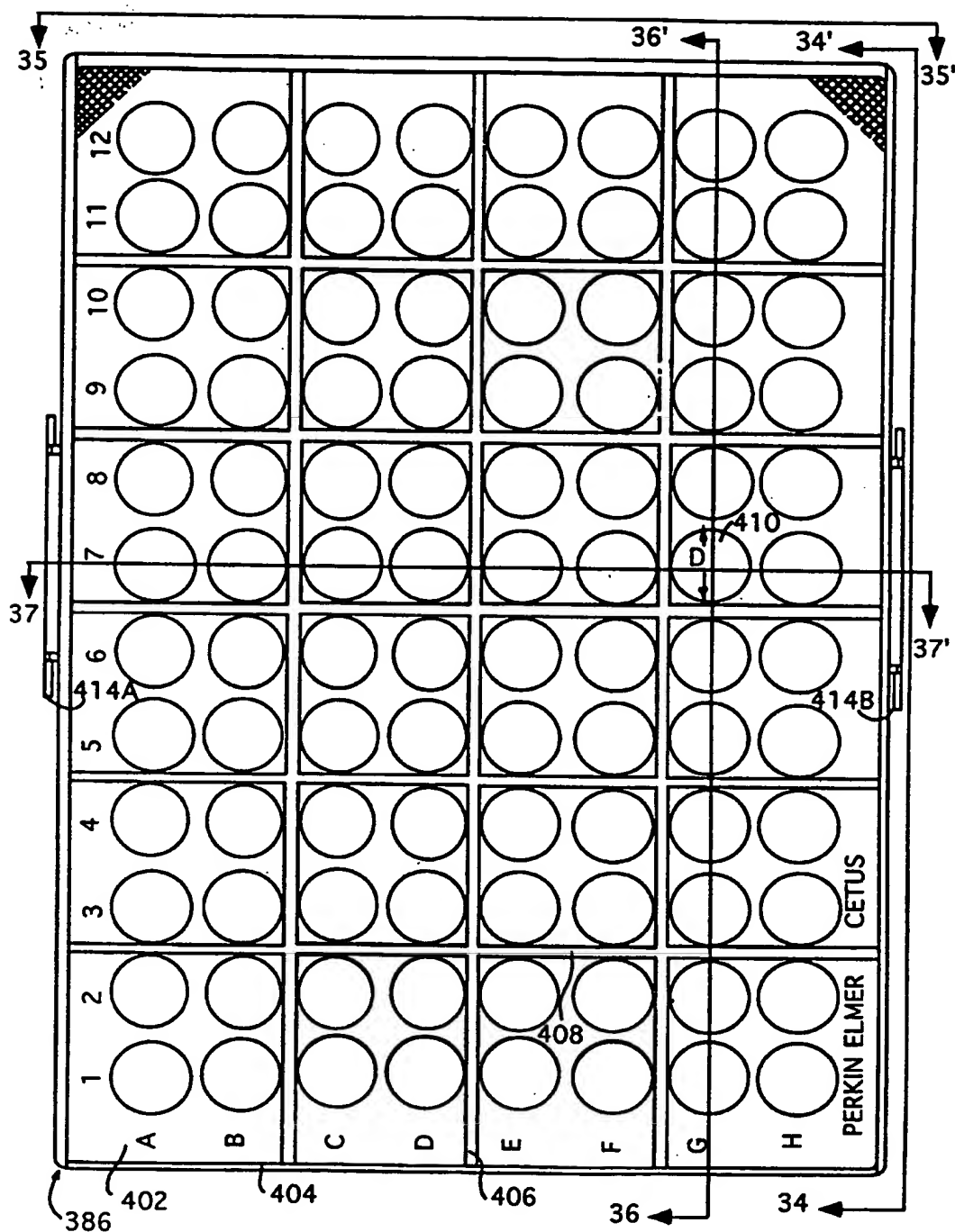
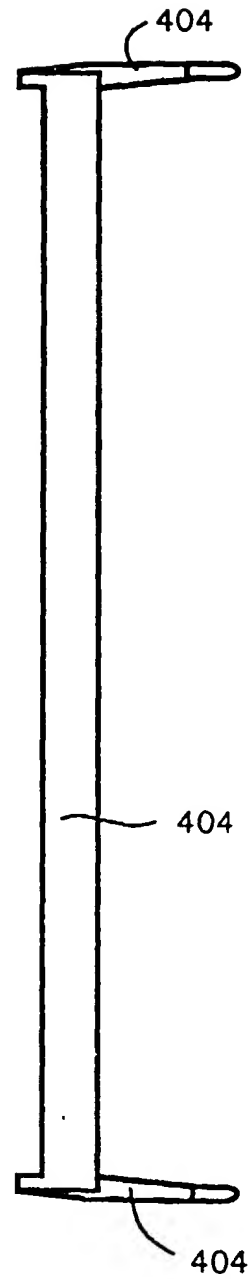
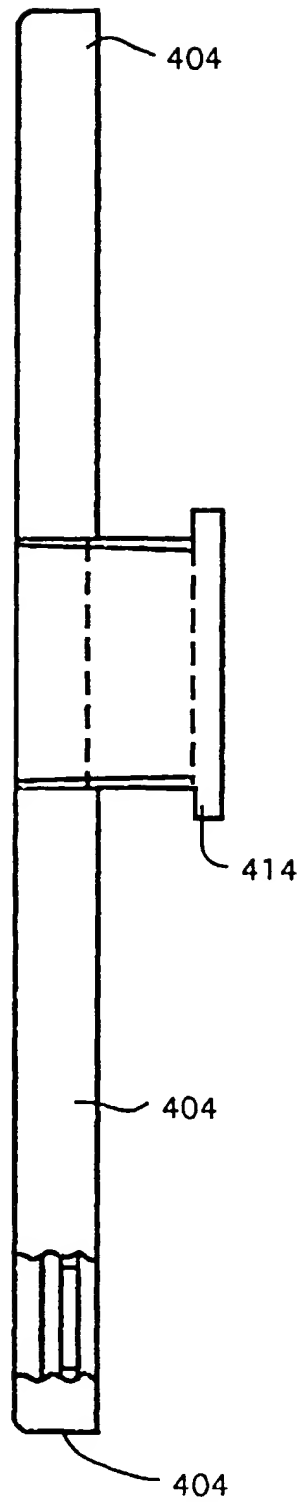
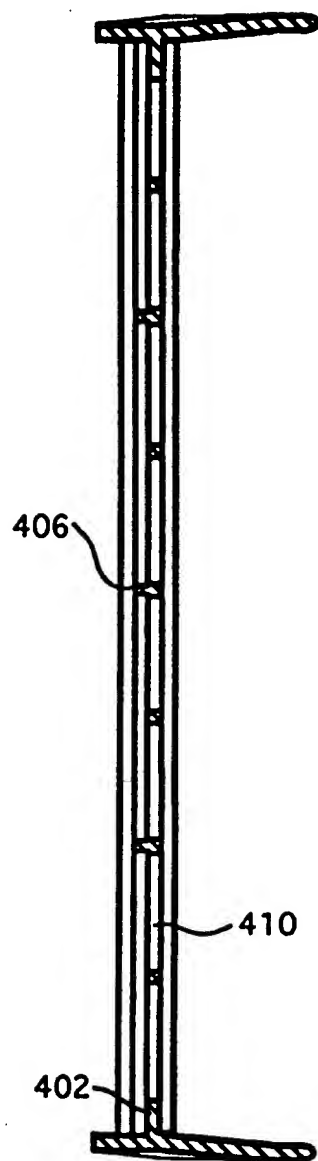
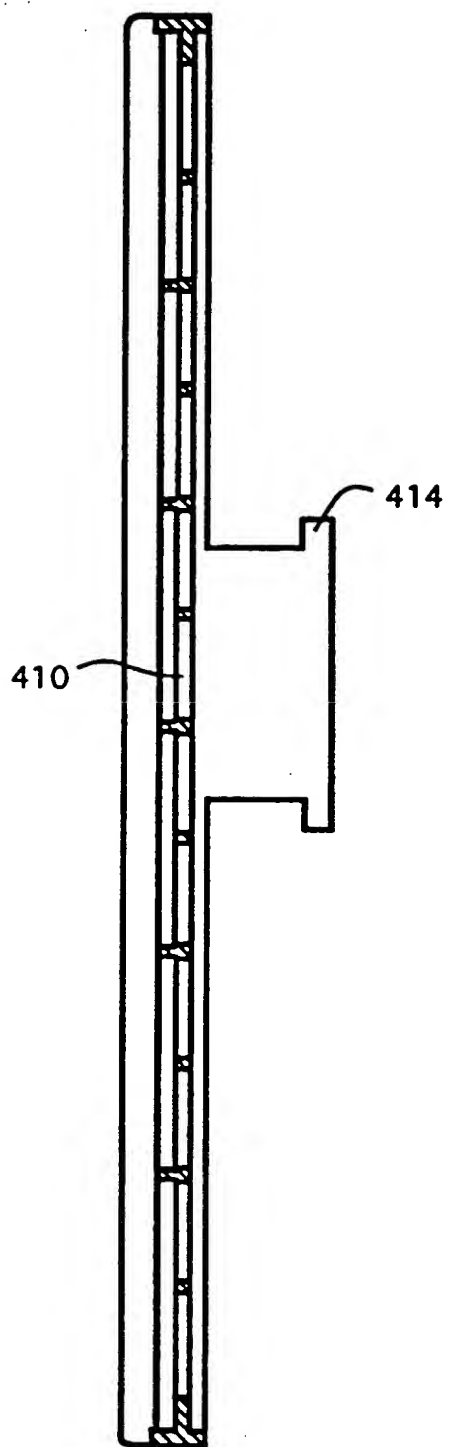
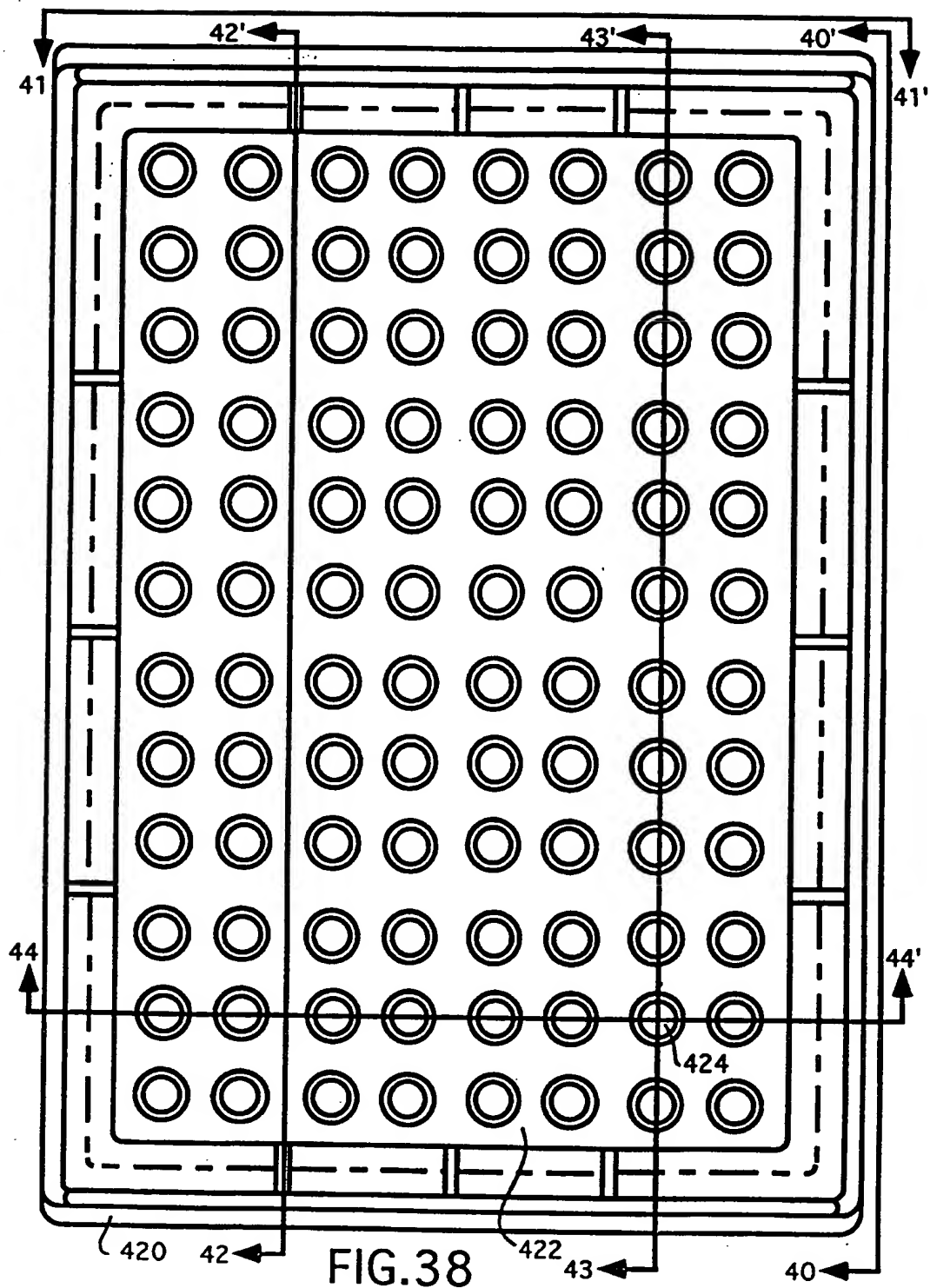


FIG. 33







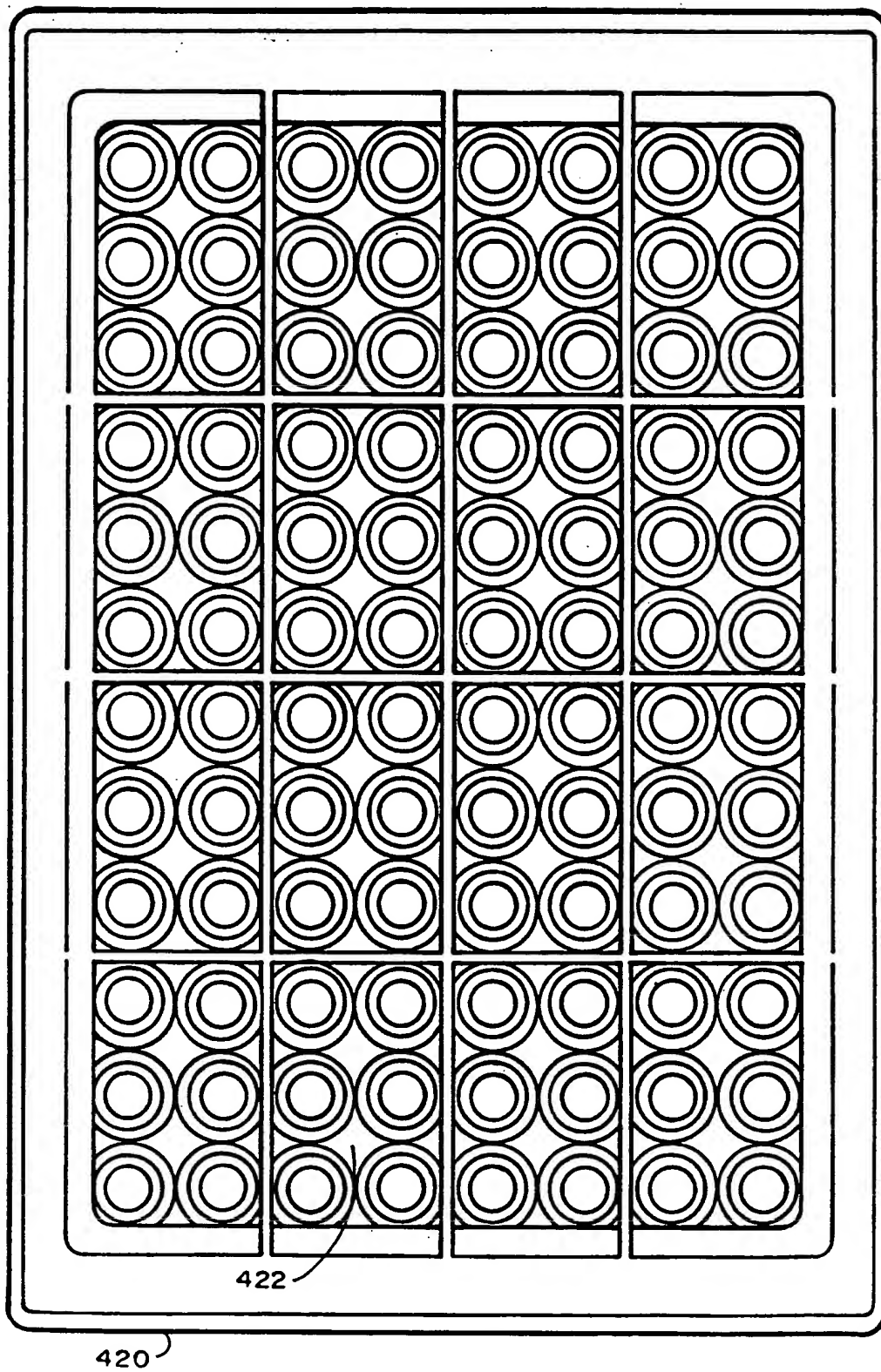


FIG. 39

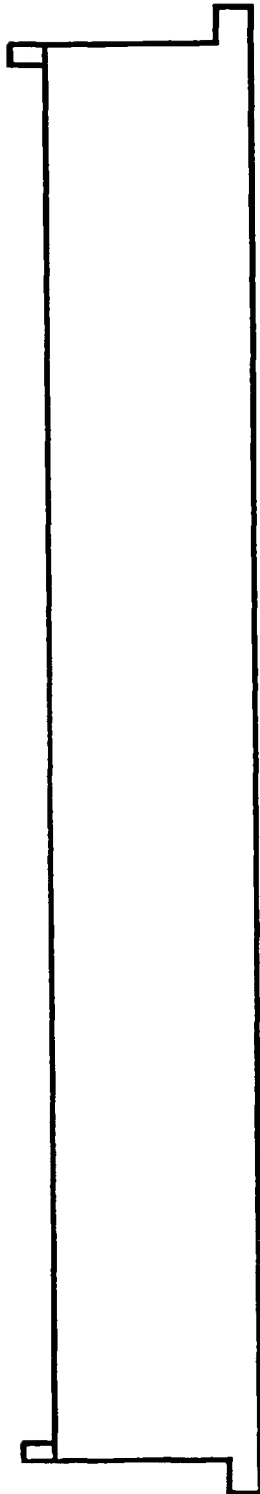


FIG. 40

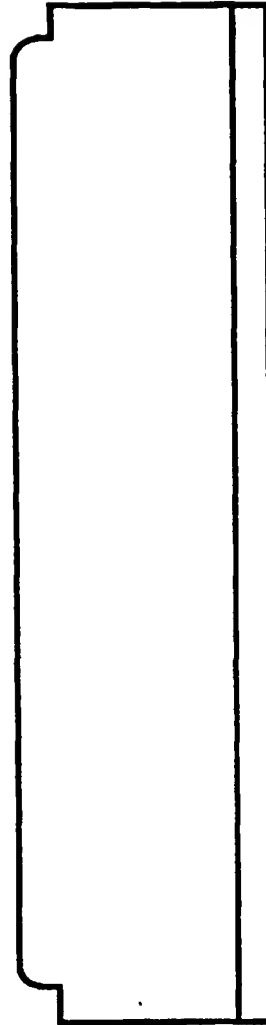


FIG. 41

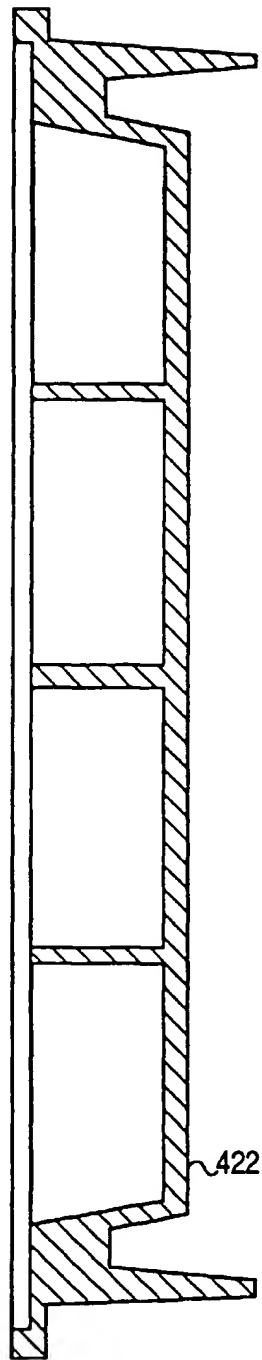


FIG. 42

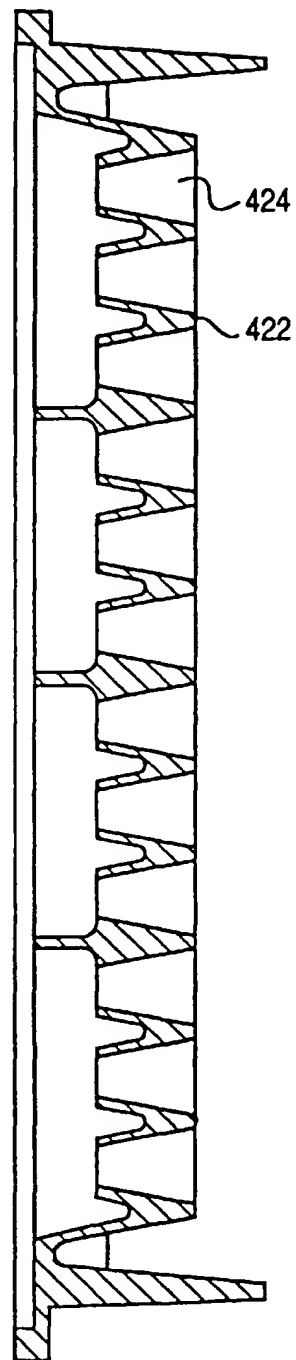


FIG. 43

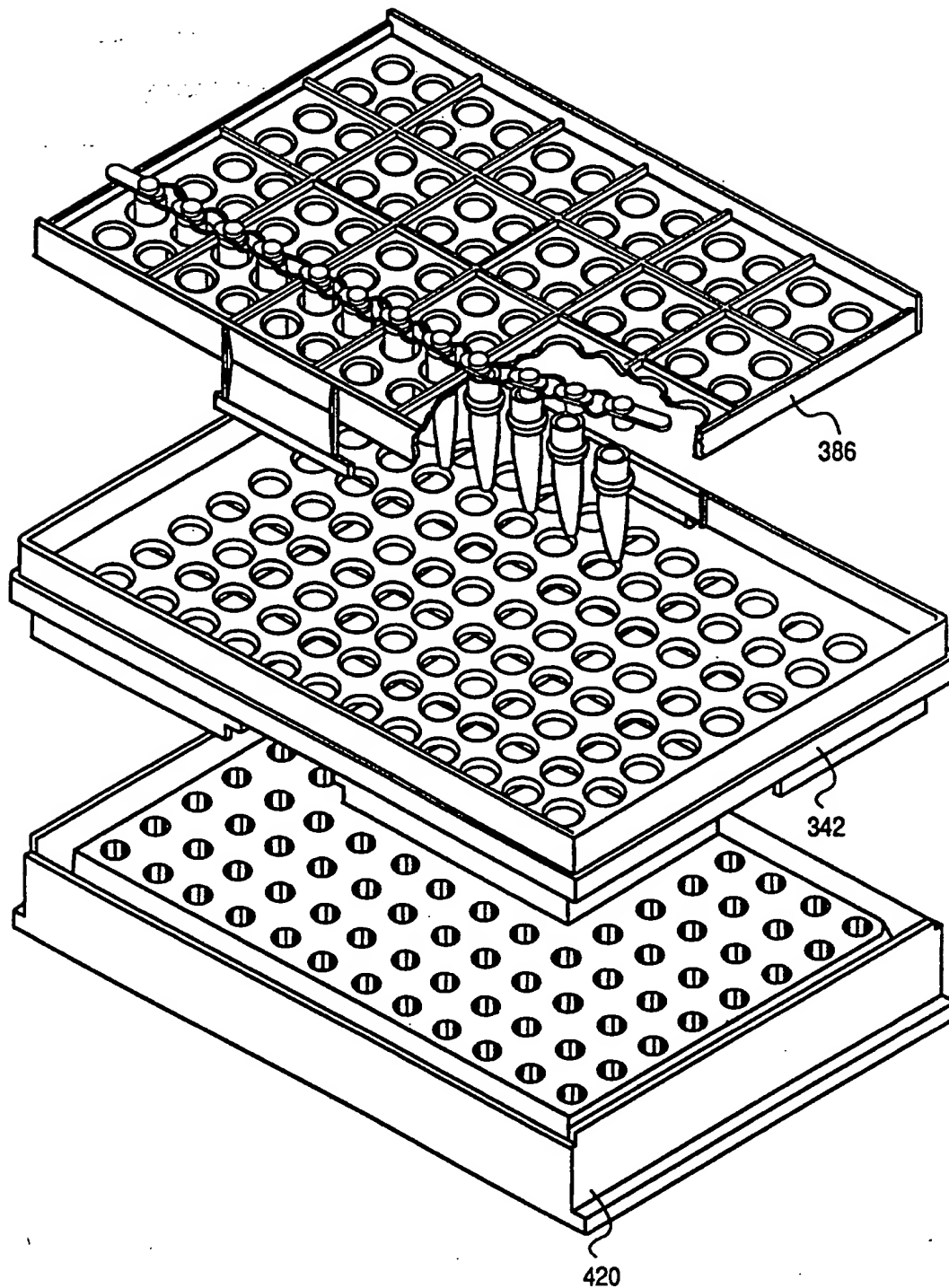


FIG. 45

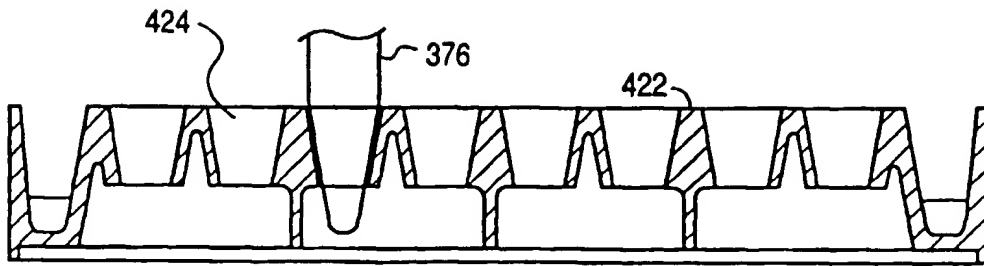


FIG. 44

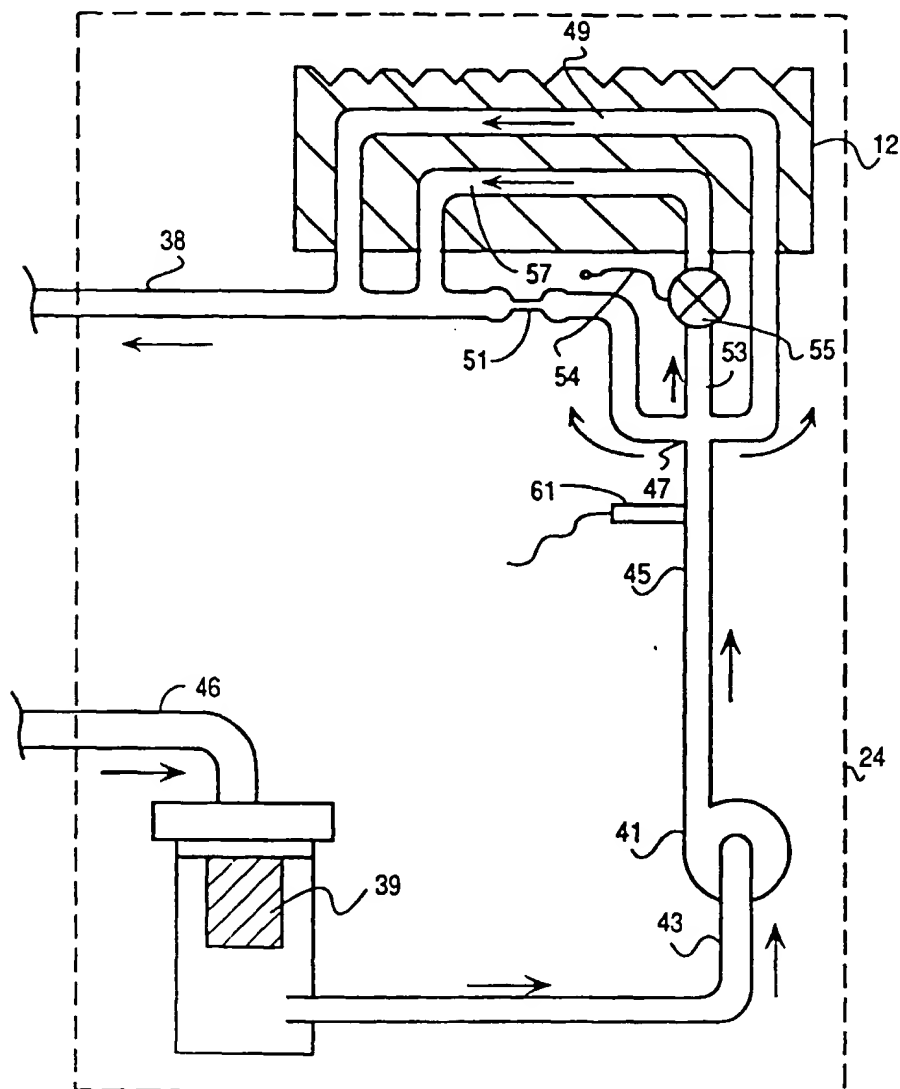
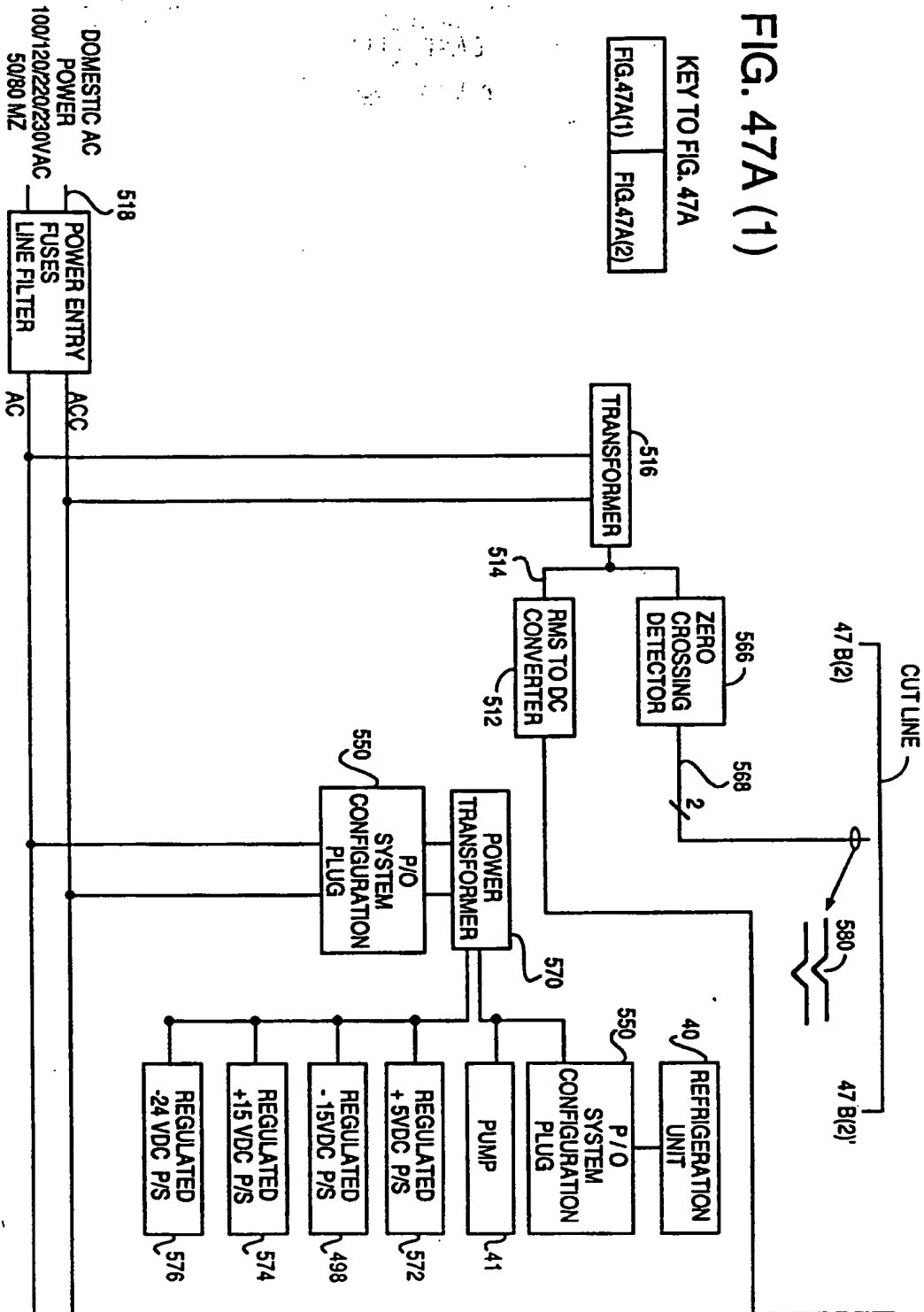


FIG. 46

FIG. 47A (1)

KEY TO FIG. 47A

FIG. 47A(1) FIG. 47A(2)



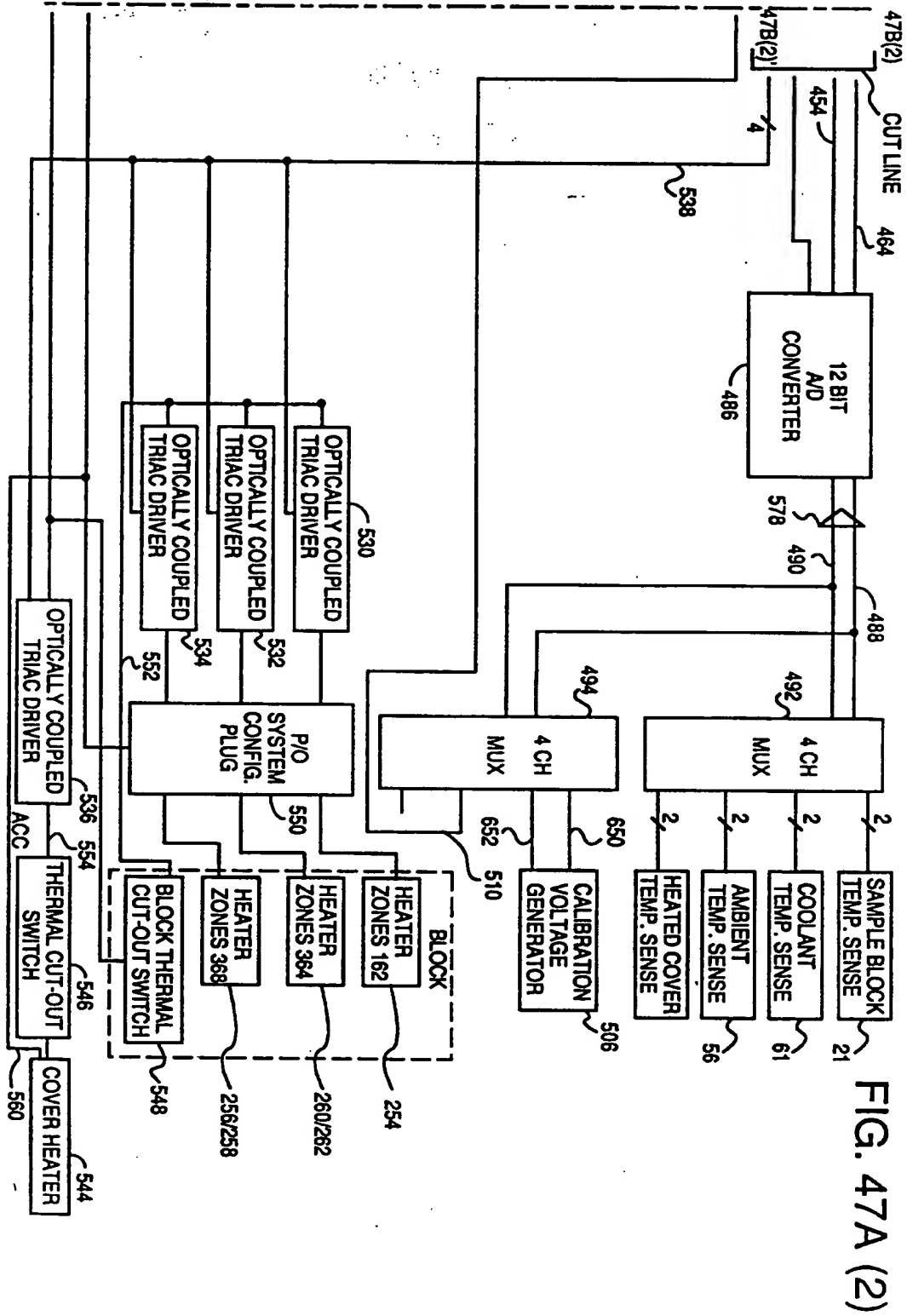


FIG. 47A (2)

KEY TO
FIG. 47B

FIG. 47B (1)	FIG. 47B (2)
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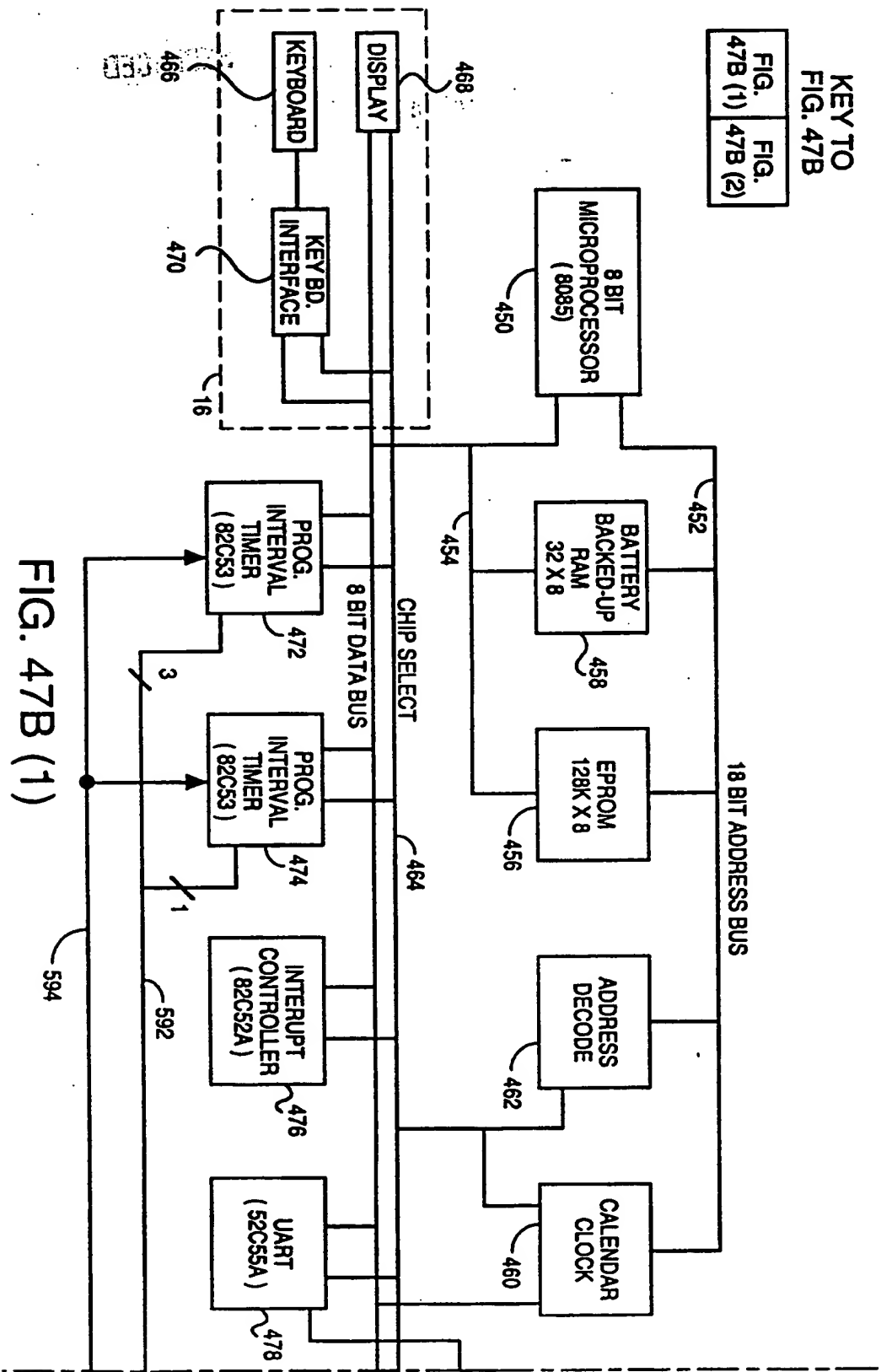
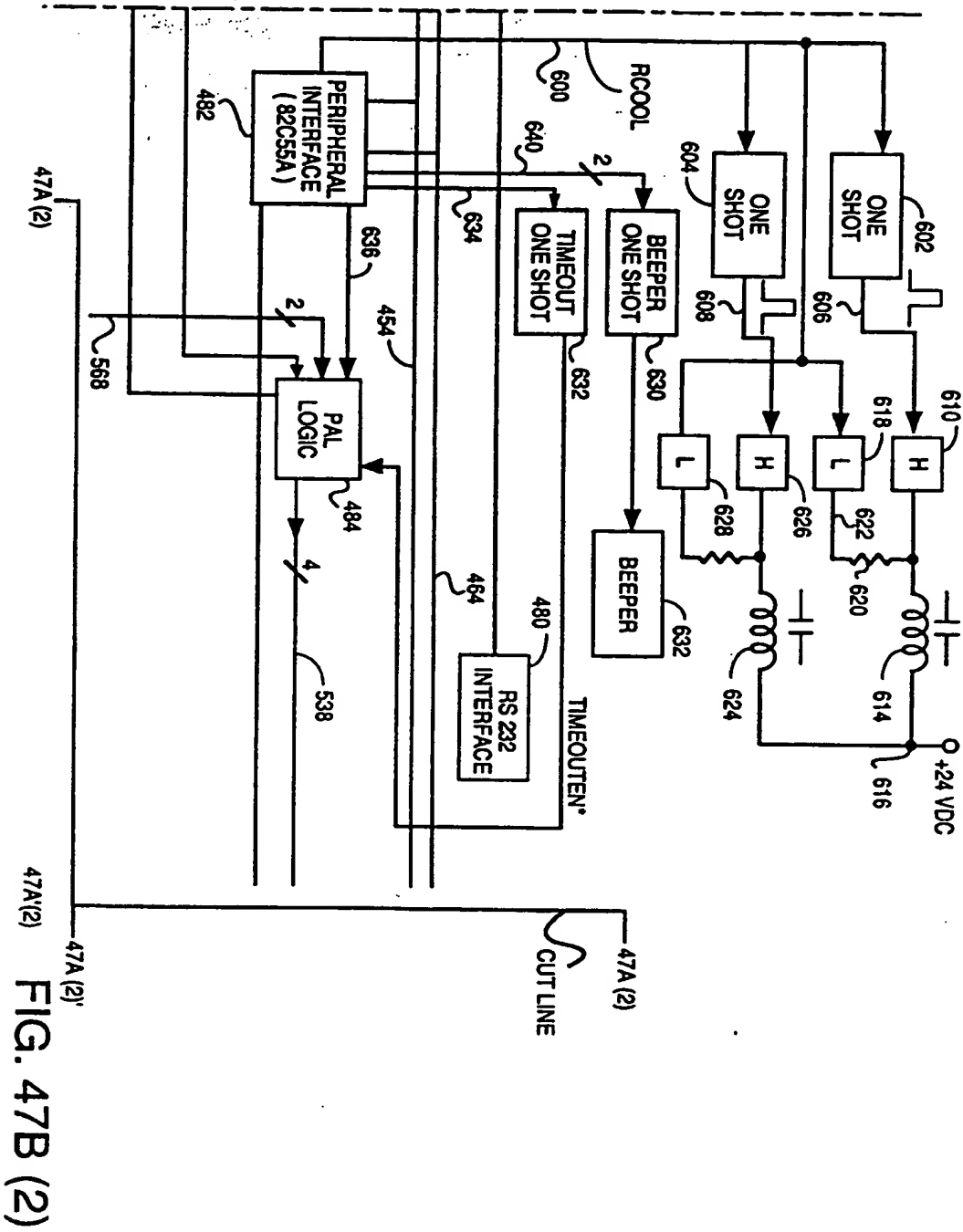


FIG. 47B (1)



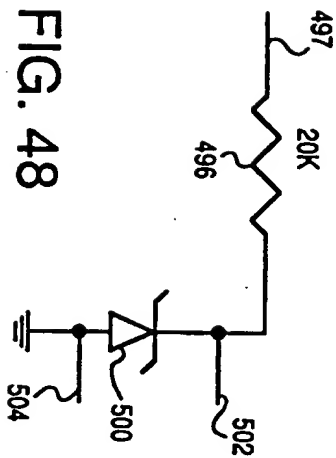


FIG. 48

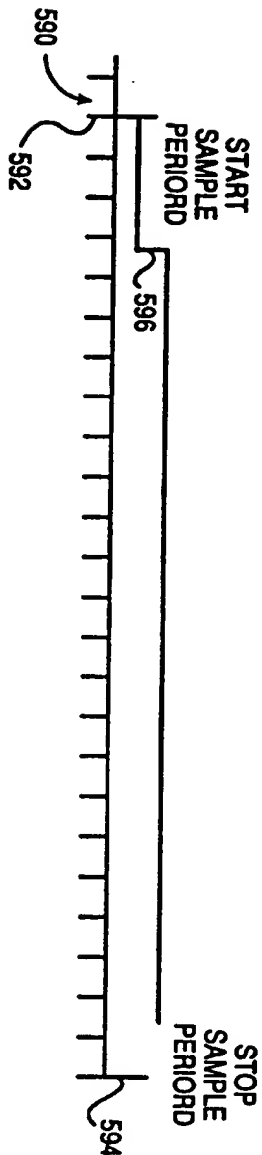


FIG. 49

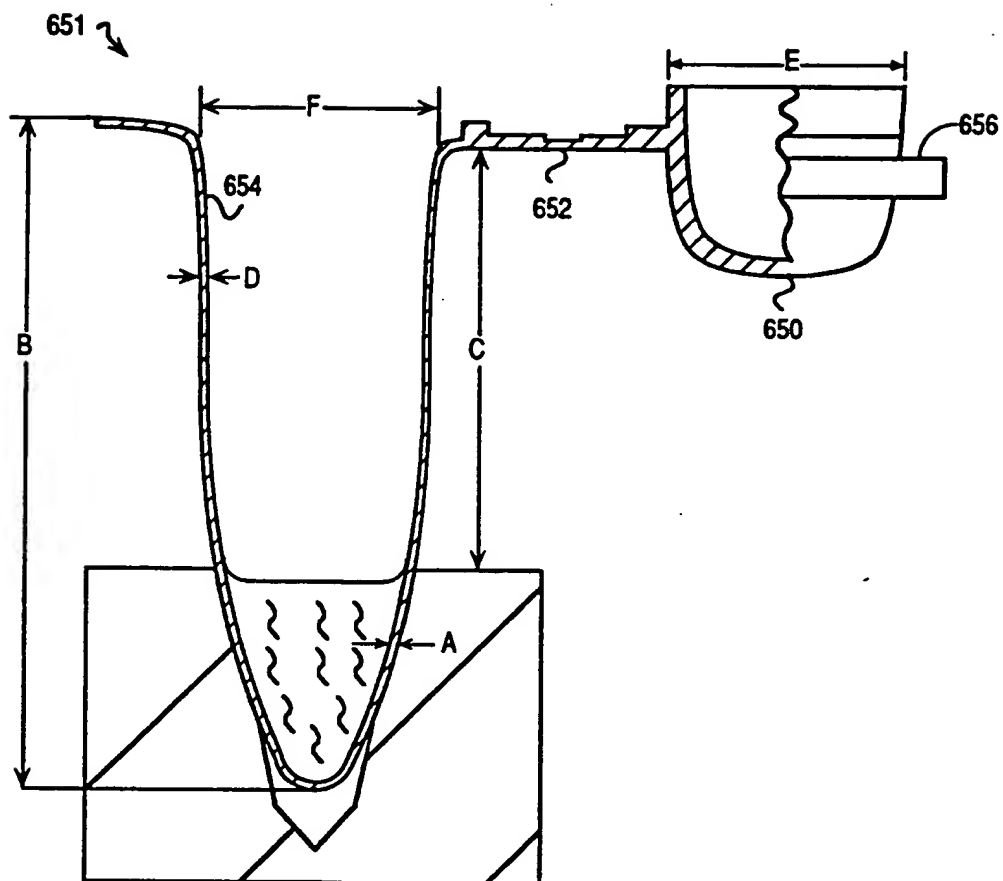


FIG. 50

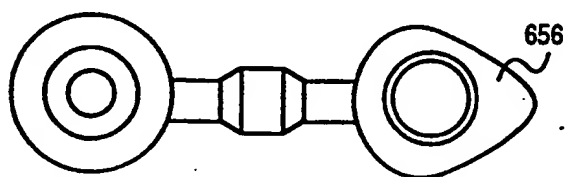


FIG. 52

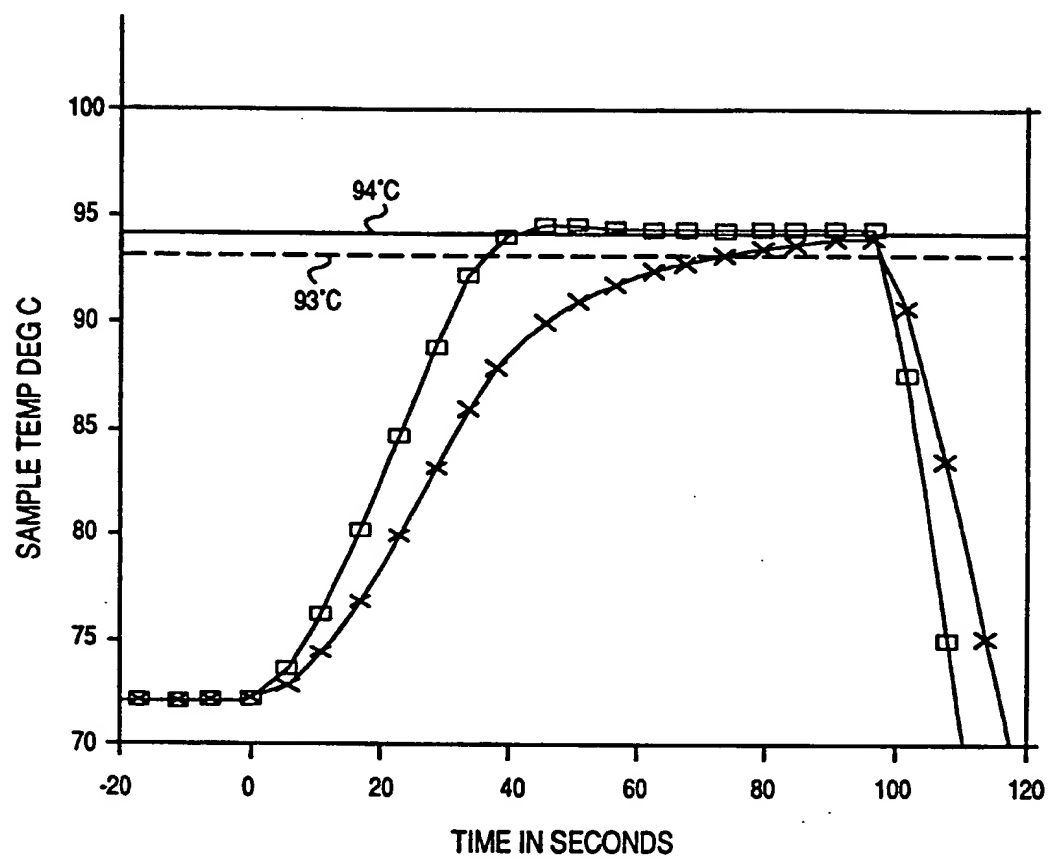


FIG. 51

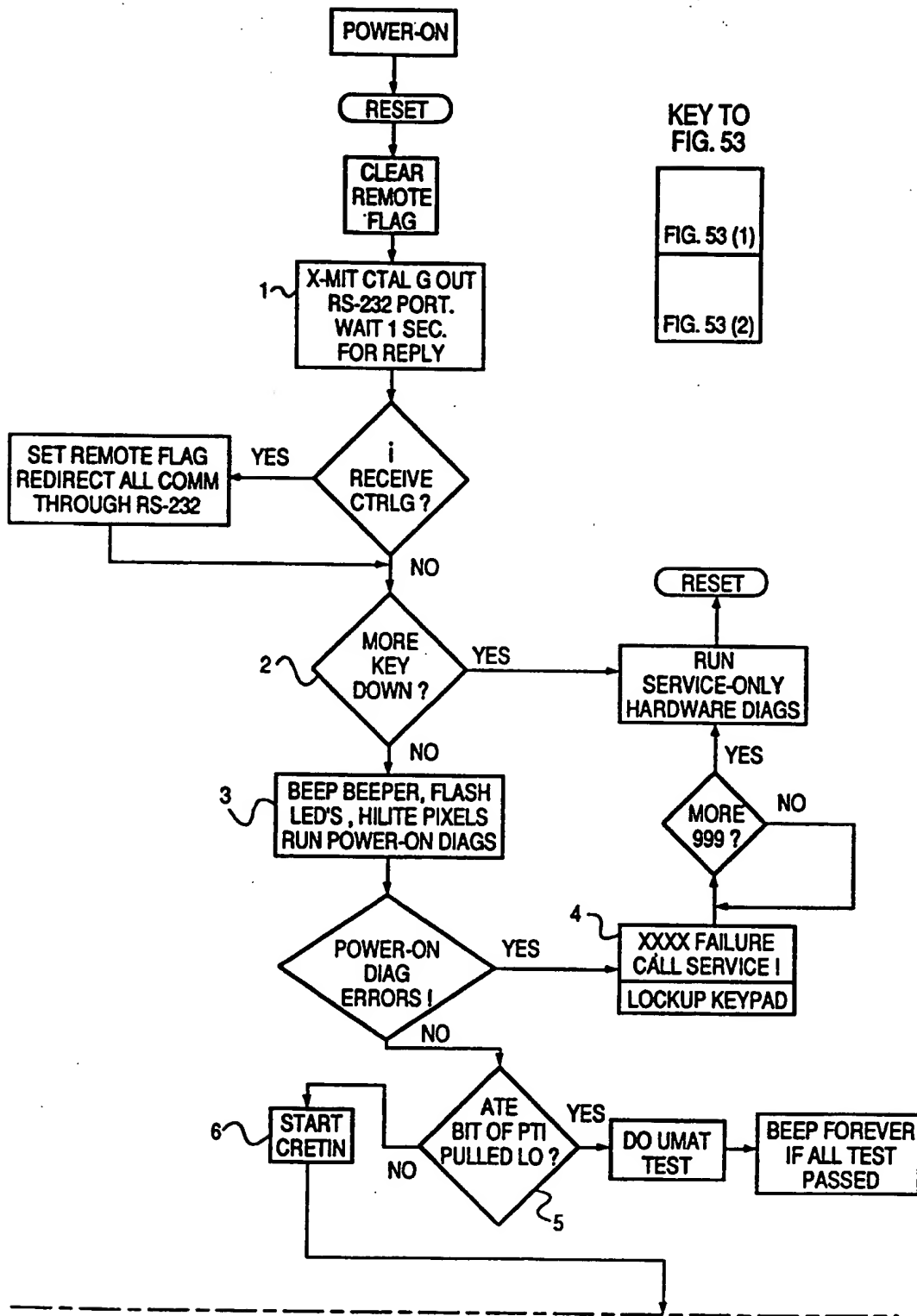


FIG. 53 (1)

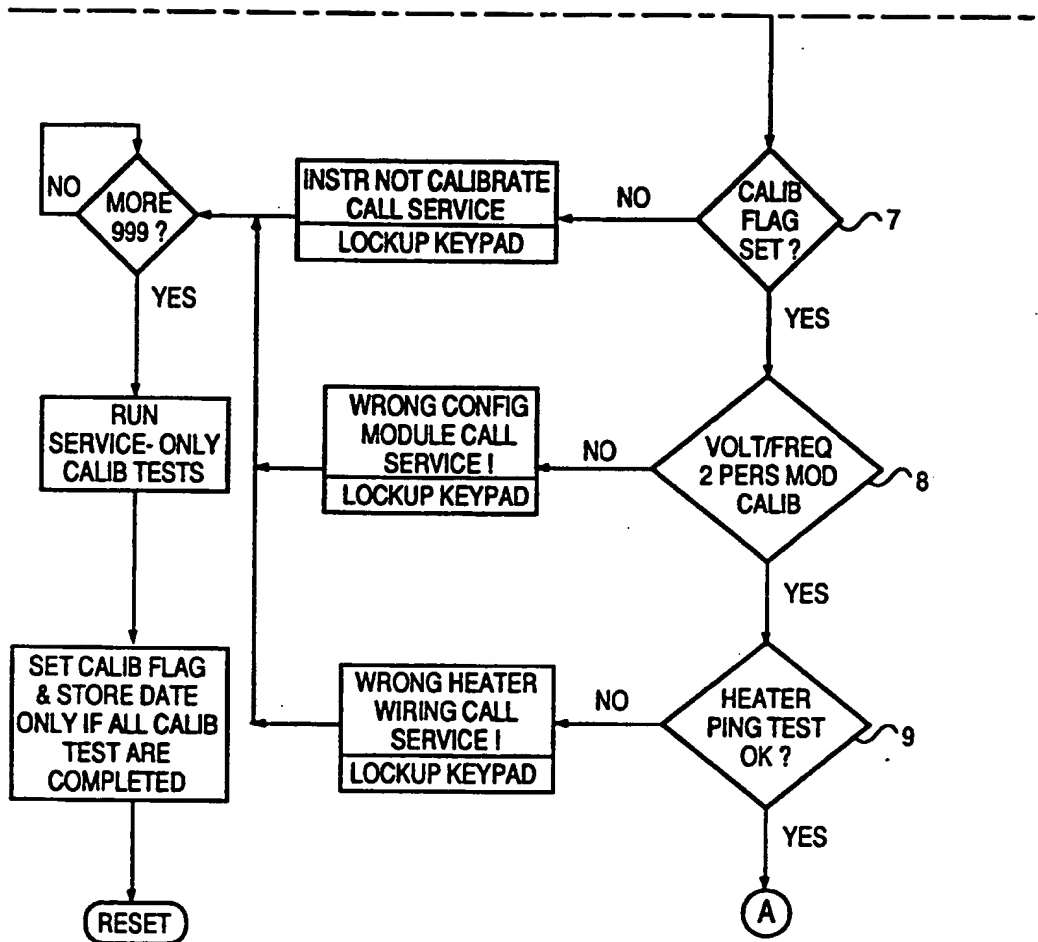


FIG. 53 (2)

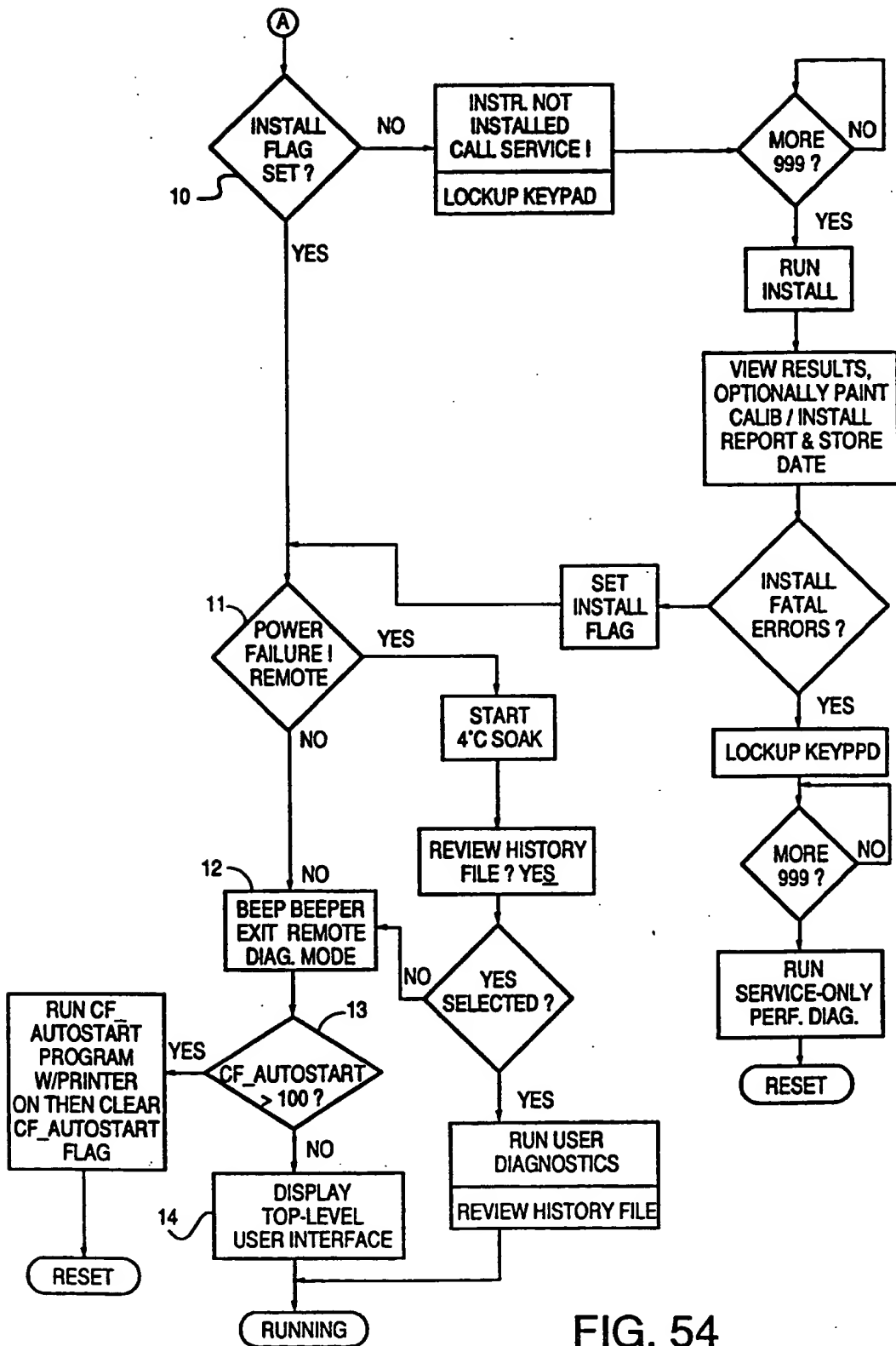


FIG. 54